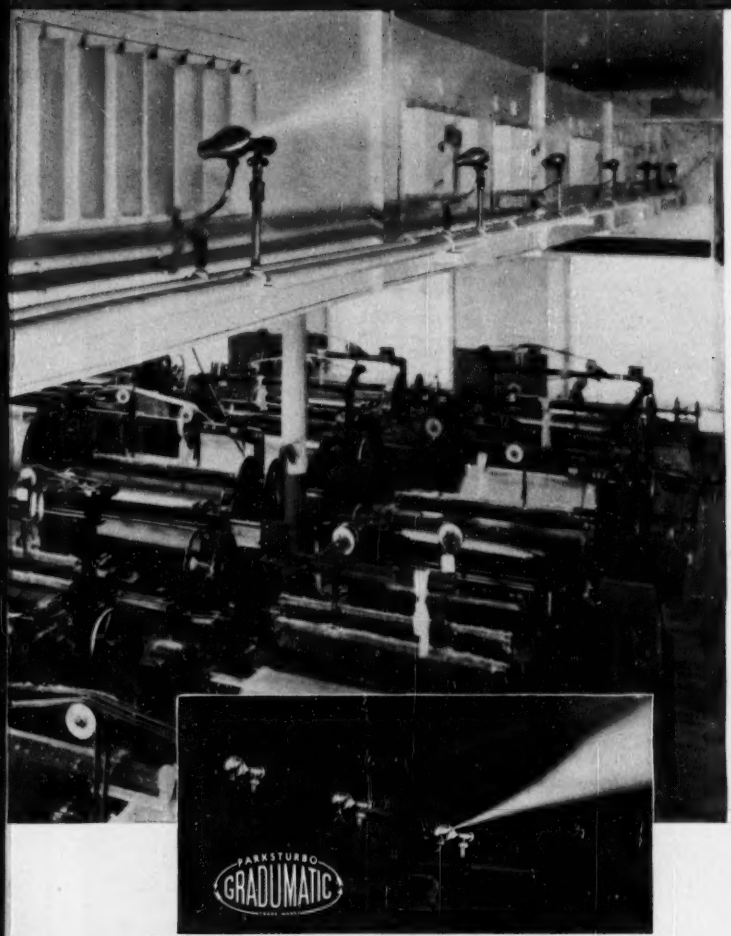
JANUARY, 1951

Textile Industries

COTTON
Textile Industries



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Volume 115 Number 1

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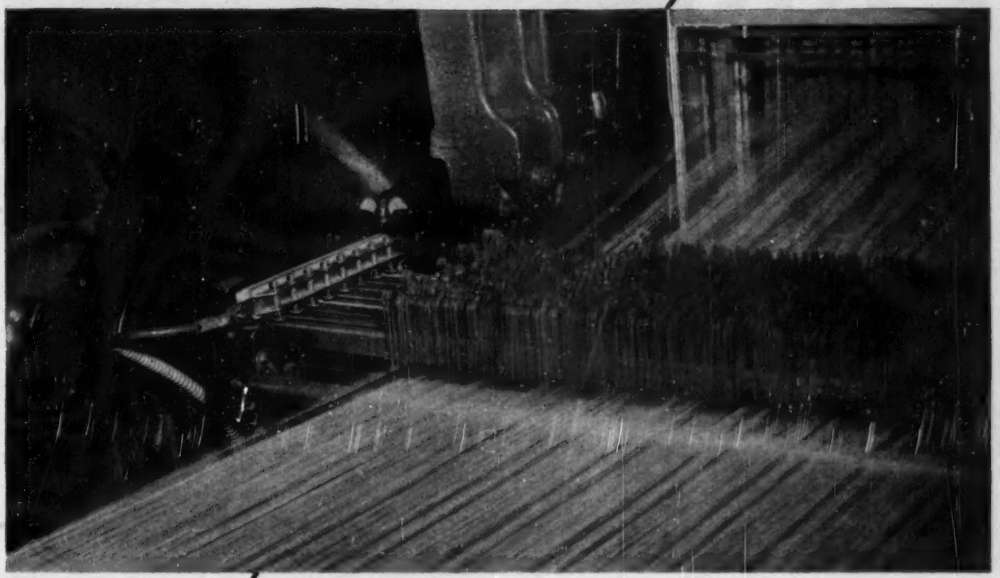

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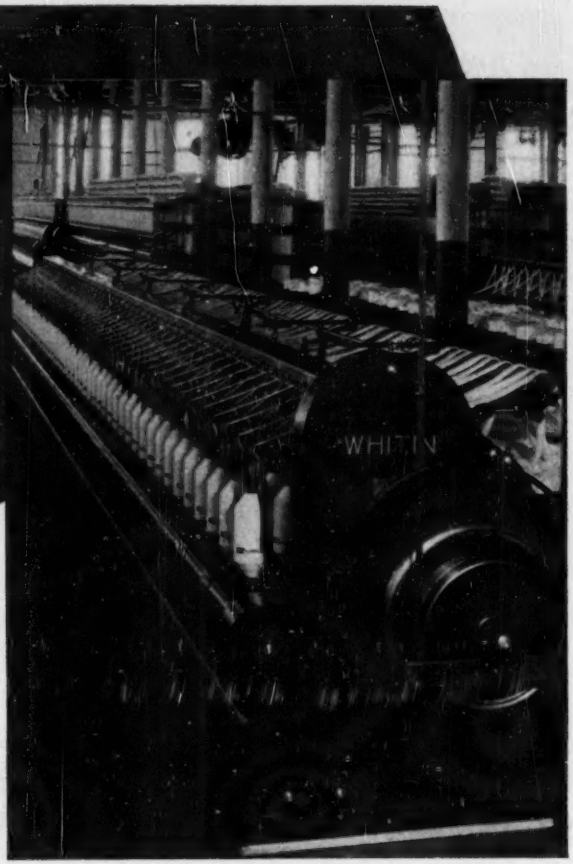

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Textile Industries

Volume 115, Number 1
January, 1951

FEATURES

Tap a New Source of Manpower 81
With Full-Fashioned Hosiery Machines, Proper Lubrication is Essential 97
Practical Time Studies to Assist Overseers 100
Panel Discussion on Gouts (South Carolina STA) 103
Picker Lap Tests—An Effective Quality Control Device 105
Glass Fabrics (Decorative)
Dyeing, Printing, and Finishing 107
Preliminary Processing and Weaving 109
Vibration Damper for Small Ribbers 112

AN EDITORIAL EXTRA—

The Maintenance and Operation of Cotton System Warping Equipment as Used with Magazine Type Cone Creels 113

Production Control Assures Flexibility for Outerwear Plant 121
Electrical Hazards in Textile Mills (No. 1—Lint) 125
Adequate Instrumentation Aids Wet Processing 126
Maintenance of Woolen Cards (Part 2) 131
Alabama Mill Men Consider Spinning and Spooling Problems 137
Special Finishes, Fatty Intermediates 143
Georgia Mill Weaving Practices 147
Seamless Hosiery Mill Finds Storage System Reduces Seconds 155
Eastern Carolina STA Meeting 157

DEPARTMENTS

News in Brief 83
An Executive Views the News in Textiles 91
Future Events 93
Shorts and Remnants 95
How Other Men Manage 161
New Equipment and Materials 171
An Old-Timer Says— 181
What the Textile Mills Are Doing 184
Suppliers' News 190
Helpful Booklets Free 203
Personal Notes About Men You Know 215

GENERAL and TECHNICAL

Circus Comes to Town—Mill Closes 83
Tricot Electronic Let-Off Control 83
World Wool Production Rises 83
Rieve on Taft-Hartley 85
Textile School—Industry Tie-Up 85
Rayon from Cane 87
Deferment of Employees 87
New Sizing Process 87
New Textile Hall Corp. Officers 89
Curtailment of Production Equipment 89
"Orlon" Sweaters 89
Cotton Delivery to Northern Mills 89
What Makes a Fabric Go Wrong 91
Processing Dynel Fiber on Cotton and Wool Systems 99
Knitting Socks from Spun Nylon Yarns 106
Spinning Nylon Yarn on Woolen System 124
Research Refresher Course Announced by TRI 135
Wool Advisory Committee Reviews USDA Research 141
Consumers' Price Index to be Modified 144
New Steam-Jet Loom Cleaner 171
Spool Moistening Device for Lap Winders 171
Free Riding Slide Hook 172
New Polystyrene Fiber 172
Results of Clothing Study Available 174
Features of Hinnekens Boil-Off Machine 178
Leakproof Rotating Joint Maintained in Mill Shop 178
History of Alabama Cotton Textile Industry 178
Fabrics' Relative Warmth Can't Be Judged "Like Piece of Pipe" 182

HOW OTHER MEN MANAGE

Discussion: Figuring Blows per Inch on Picker Beaters 161
Remedy for Cylinder Slippage on Mule Spinning Frames 165
Comments on Care of Bobbins 167
Combination Clearer Proves Effective on Drawing Frames 167
Knitted Sample Follow-Up Expedited by Colored Bags 169

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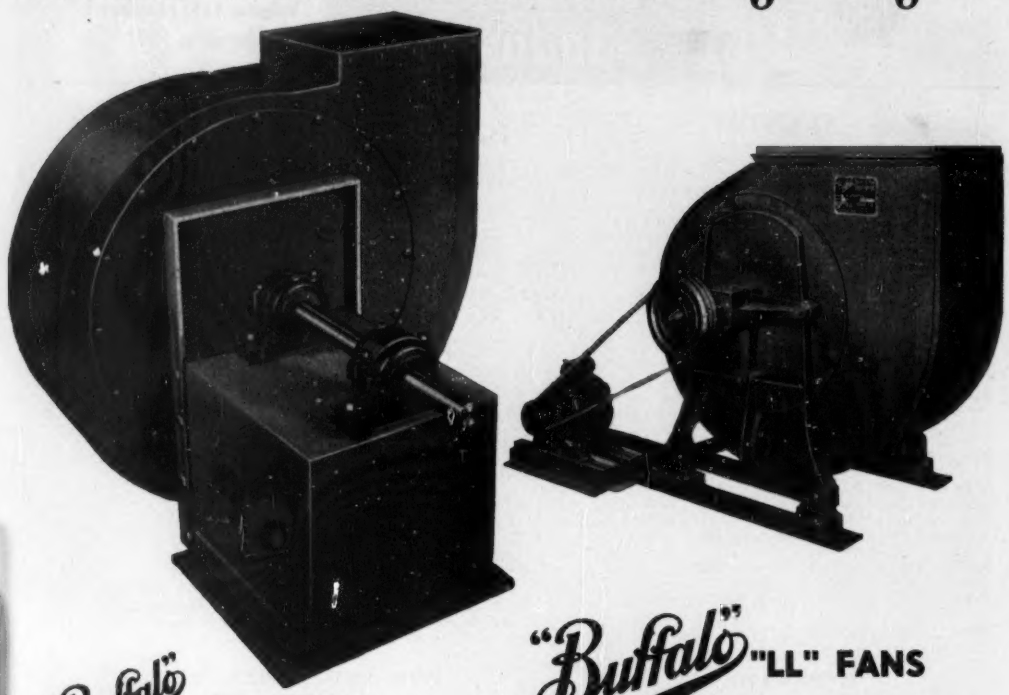

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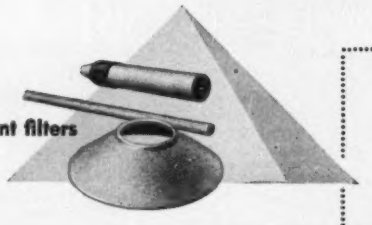

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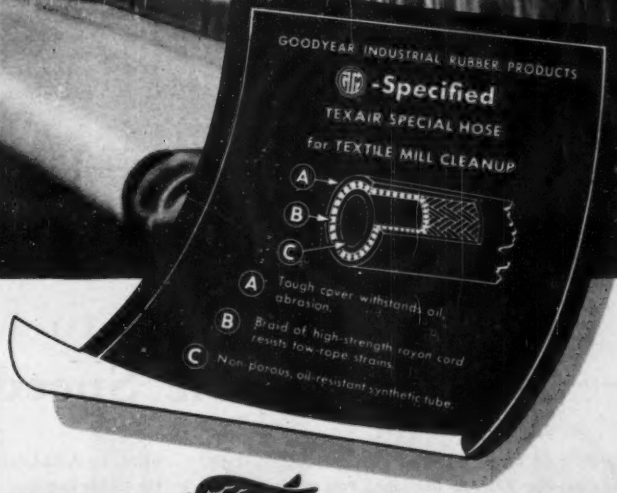

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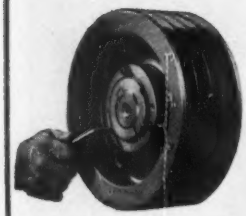

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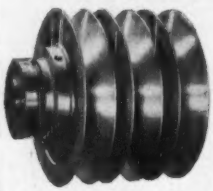

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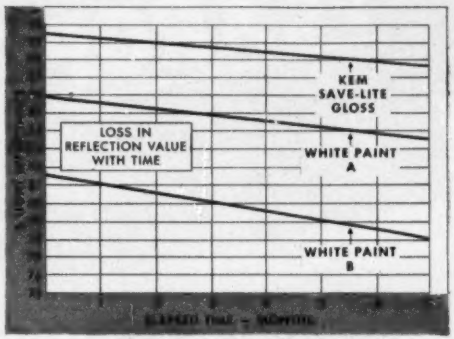

HERE IS PROOF!

Note how the whiteness, or reflective value of SAVE-LITE *starts* higher than conventional finishes when first applied, and *stays* higher throughout its life! This means longer intervals before repainting is required.

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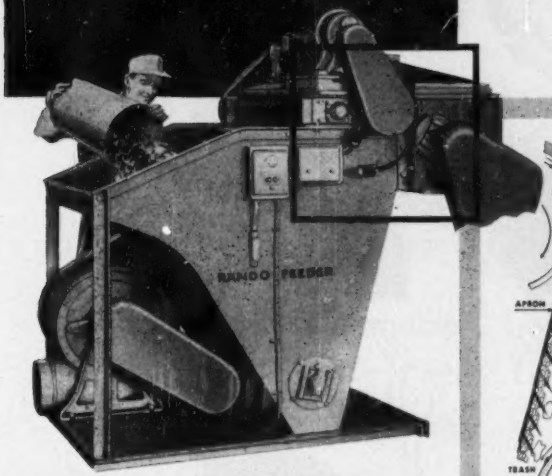

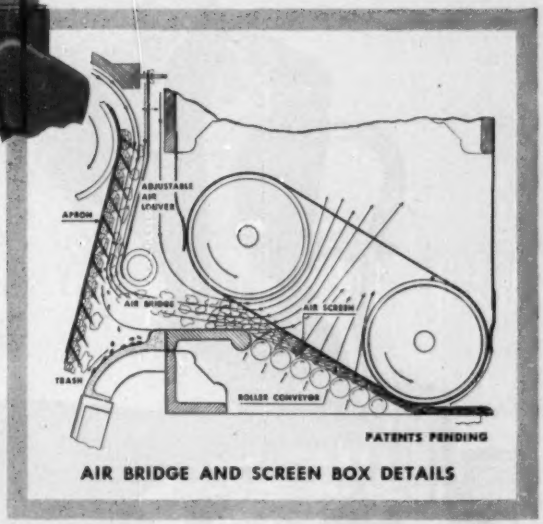

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1639 W. MOREHEAD ST., CHARLOTTE, N. C.

HOLDSWORTH GILL SCREW CO., INC.	PLATT BROS. (SALES) & CO., LTD.
PRINCE-SMITH & STELLS LTD.	PLATTE, HAESE & CO.
TAYLOR, WORDSWORTH & CO., LTD.	SELLERS & CO., LTD.
SOCIETE ALSACIENNE DE CONSTRUCTIONS MECANIQUES	CENTRIF-AIR MACHINE CO., INC.
	JOSEPH HOBERT & CO., LTD.

SANDOZ PRESENTS *The color achievement of the month*

Crepe Expectations ...BY MILLIKEN

She can be as confident of the ever-newness of the fabric's appearance as she is of the fashion-rightness of its cut.

For such fabrics as Milliken's Dress Crepe . . . 50% wool, 50% worsted . . . Sandoz offers colors of perpetual youth — fast to weather, perspiration, dry cleaning and pressing.

And to the dyers of such fabrics which, being lightweight, should be exposed a minimum length of time to the dye bath, Sandoz offers dyestuffs with maximum levelling properties. For example:

ALIZARINE LIGHT BLUE 4GL
XYLENE LIGHT YELLOW 2G
XYLENE FAST RUBINE 3GP

These colors are also fast to carbonizing and have the light fastness desired for quality dress goods. Remember them to get the double value of long color life and economical processing.

And for *any* chrome, acid or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you see in these Sandoz advertisements.

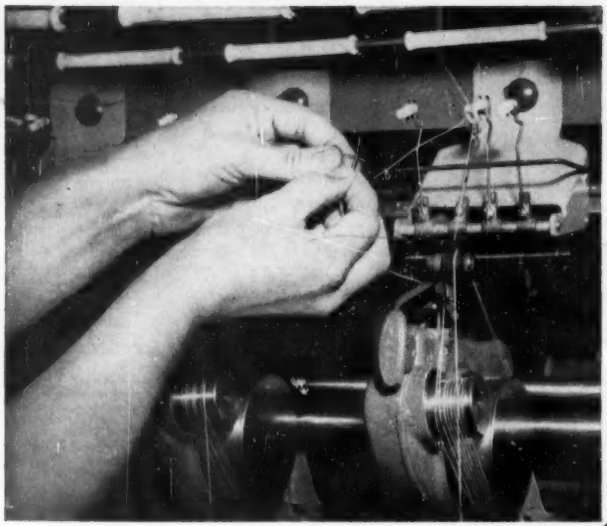
DIRECT-DYE COTTON AND RAYON WITH CUPROFIX FOR WASH FASTNESS

New CUPROFIX colors and after-treatment give fastness to washing, light, etc., that formerly required more expensive vat dyeing. Write for booklet on CUPROFIX, already adopted by dozens of mills.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N. Y.

Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto • Other branches at Providence, Paterson and Montreal

S N D *thinks ahead with textiles* S

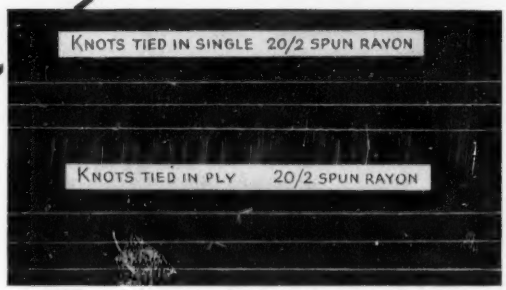


Tying knots HERE

Individual automatic stopping mechanism for each end in the ply improves quality of yarn on Atwood Model 10 Ring Twisters—cotton, worsted, spun rayon, nylon, blends, etc.

Each end passes through a drop wire. When a break or run-out occurs, the wire instantly actuates a mechanism to stop the feed rolls and the spindle . . . so that the knot can be tied in the single end.

This means knots are smaller, therefore less troublesome. Also, *drop ply* can't get into the package . . . and roller laps are prevented, reducing waste.



makes THIS difference in quality

When a break is tied in the single end prior to twisting and the tails are properly clipped, the knot tends to be hidden in the twisted plied yarn. The smaller knot improves appearance, reduces grease and oil pick-up, and makes it easier to pass the yarn through the reed of the loom or the knitting needle.

Knots can be tied in the singles and drop ply can be prevented *only* on machines having an individual stop motion for each end.

UNIVERSAL WINDING COMPANY

ATWOOD DIVISION

P.O. Box 1605, Providence 1, R. I.

Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles; Montreal, Hamilton, Canada; Manchester, England; Paris, France; Basle, Switzerland.

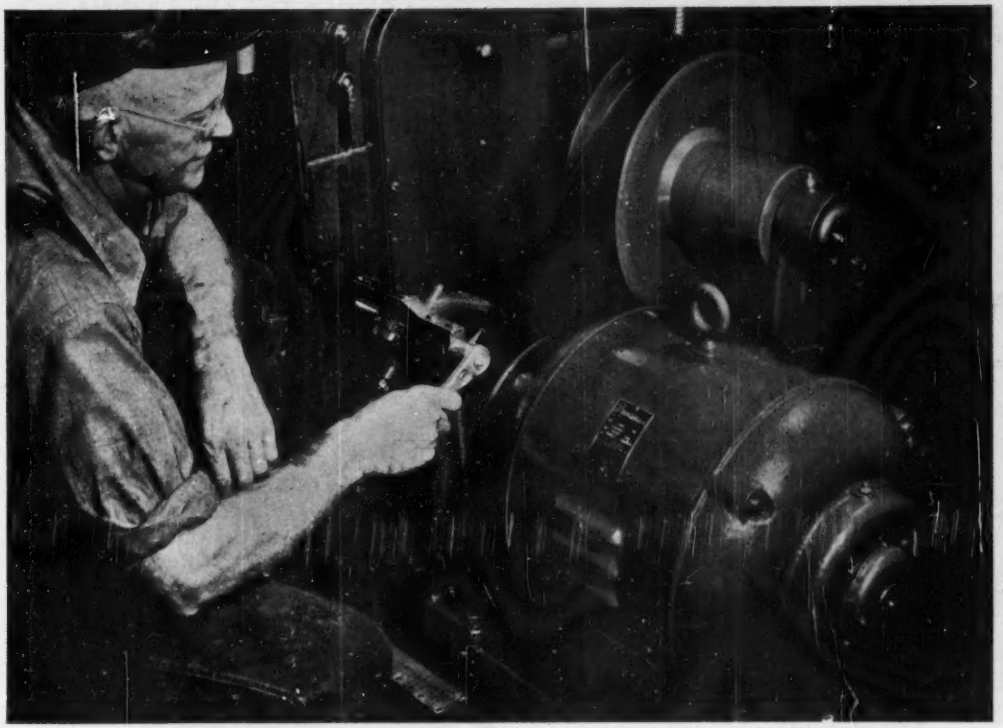
Agents in every principal textile center throughout the world

Winding and Twisting Machinery for Natural and Synthetic Yarns

Model 10 ***automatic stop motion for each end and ply***

REEVES Vari-Spin Drive . . .

by far the quickest way to change cylinder speeds



To change speeds, simply turn a screw

- **Eliminates downtime and troublesome pulley changes.**
- **Speed changed without stopping the machine.**
- **Speed changes *always* immediate and positive.**
- **Full lubrication assures free-moving parts.**
- **Speed setting is accurately maintained.**
- **Compact—nests into narrow aisles.**
- **Uses any standard constant speed motor and only one belt.**

Mills report outstanding results with this new simplified drive . . . the minimum of ends down at the highest possible production rate!

Speed adjustment with the REEVES drive is stepless and infinite within its range—2½:1. This wide range covers operating speeds for all yarn sets. Slightest speed changes can also be made to compensate for excessive tension and for humidity or temperature variations.

The REEVES drive is so positive that returns to previous cylinder speeds within a fraction of an rpm are secured. The design is so simple that installation and maintenance are quick and easy. Get complete information. Write today for Vari-Spin Bulletin T61-G501.

accurate · variable **REEVES** *Speed Control*

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

Recognized Leader in the Specialized Field of Speed Control Engineering

BUY FROOT'S SUITS . . . made from the finest worsteds woven today! But, friends, they cost only . . .
BPD
BETA PATRIA DOOR
JIBBERING'S GIVES YOU the most for your money...top fabrics at bottom prices!
BROWN
YALE
GOIN' SOUTH, Y'ALL?
Then get a load of Odds & Bodkins tropicals a few years ago you would have paid three times these prices for such quality . . . try and beat these values!
JV
YESSIR! SAM FRAMMIS has got 'em all lashed to the mast for winter woolens . . . best in town by a mile . . . and lowest prices, too . . . shop the whole town, then come in here!

Competition

is the life *(or death)* of trade!

...and competition begins in the WEAVEROOM!

Look at the ads and TV commercials. Listen to the radio and the salesmen in the stores. Competition was never like this . . . *and it's only the beginning!*

Style appeal? Strong. Tailoring? Of course. But the payoff pitch for the customer's dollar is, as always, based on *fabric-quality.*

And, as always, competitive quality is based on C&K Call-Box Looms that roll out the fabrics of the moment in volumes that keep prices in line...yet can be quickly converted or adapted to accommodate sudden changes in demand for *new* fabric-construction.

That's why mills that have consistently modernized their C&K Weaverooms...each year replacing at least 10% of their oldest and least efficient looms...are on top of the heap today, *to stay.*

Yes, a modern C&K Weaveroom . . . kept at top operating efficiency with Certified C&K Loom Parts *. . . is a successfully competitive weaveroom in any market situation.*

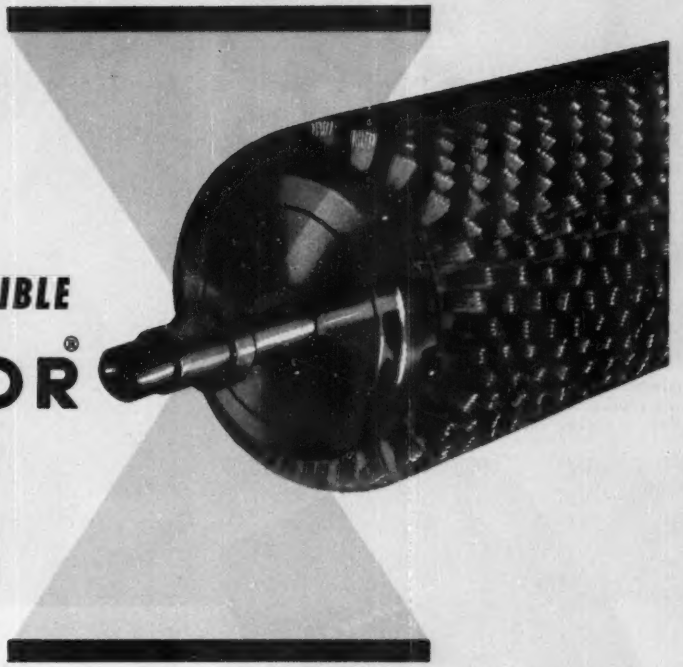
This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Woven Fabrics

CROMPTON & KNOWLES LOOM WORKS

WORCESTER 1, MASSACHUSETTS, U. S. A.

Philadelphia, Pa. • Charlotte, N. C. • Allentown, Pa. • Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.

THE INDESTRUCTIBLE METLKOR®



These textile industry facts are time-tested and proven to cut your costs. Plant operators are finding patented Jenkins' METLKOR—the cylinder brush that *can be rebristled*—lasts *3 to 12 times longer!*

Tuft-set bristles prevent abrasion, won't bleed or absorb dyestuffs. They resist water and solvents. And we'll rebristle them when they finally wear down.

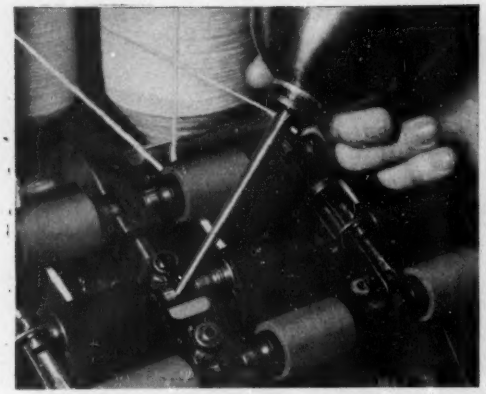
These facts mean increased efficiency and sliced costs—*for you!* There's a METLKOR brush for every textile process. If you have a special brush problem, call on us, or write: M. W. Jenkins' Sons, Inc., Cedar Grove, Essex County, New Jersey.

Brushes available in nylon, pure China bristles, fibre, etc., or combinations.

M. W. JENKINS' SONS, INC.

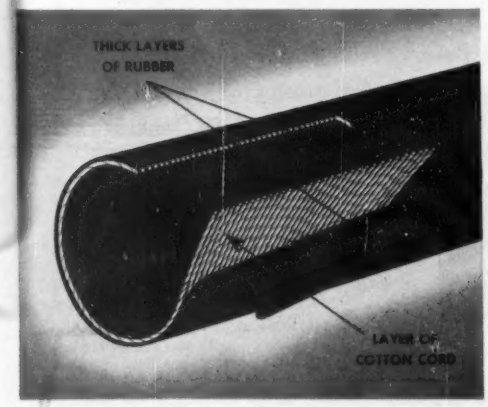
73 YEARS OF INDUSTRIAL BRUSH KNOW-HOW

Cedar Grove, Essex County, New Jersey

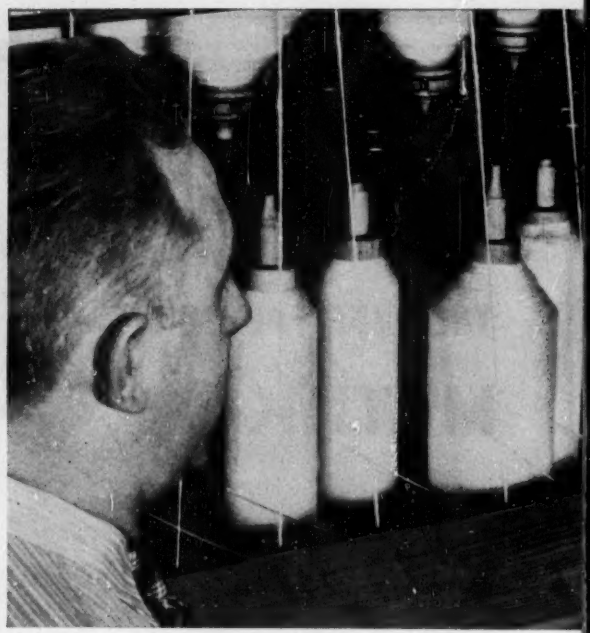


UNAFFECTED BY OIL, TEMPERATURE, OR HUMIDITY. Oils, dyes, and solvents normally used in the textile industry have no effect on Accotex Aprons. They won't sweat or become brittle.

SUPERIOR FLEX LIFE. Made of a non-oxidizing synthetic rubber, Armstrong's Accotex Aprons always retain their rubbery resilience. Year after year, they run smoothly over the nose bar.



BUILT-IN CORD LINER. A sturdy cord interliner vulcanized in the apron, (a feature developed and patented by Armstrong) prevents premature apron failure caused by stretching.



"Six years' report

Virtually no maintenance required for these clean-running, stretch-proof aprons

service from these aprons," many mill men... here's why

Many mill men tell us they have been able to cut apron replacements more than one-half since they switched to Armstrong's Accotex® Aprons. They find Accotex Aprons give them five to six years' continuous, trouble-free service on most frames. Some mills have gotten as many as eight years of continuous service.

One reason for this remarkable performance record is found in the construction of Accotex Aprons . . . a patented development of Armstrong's Textile Laboratories. The other reason is the way in which Accotex rubber is compounded to meet the requirements of apron service.

As you can see in the picture at bottom left, Accotex Aprons are made like a sandwich. The bottom or inner layer is a seamless tube of rubber. During six years of normal 2-shift operation, it runs over the nose bar more than ten million times! Yet, Accotex Aprons stand up because this tough rubber is especially compounded to resist that abrasion.

The outer or drafting surface is another tube of seamless Accotex rubber treated so that it won't crack, roughen, or harden with age. A stretch-proof cord interliner is vulcanized between the two layers of rubber. This interliner absolutely prevents stretching or curled edges.

If you are interested in cutting replacement costs, try a test installation of Armstrong's Accotex Aprons in your mill. Call your Armstrong representative or write Armstrong Cork Company, Textile Products Department, 3601 Arch Street, Lancaster, Pennsylvania. Armstrong's Accotex Aprons are available for export sale.

ARMSTRONG'S ACCOTEX APRONS

Complete Blending, Opening, Cleaning and Picking Systems for Cotton Mills

Opening, Blending and Picking Systems for Synthetic Fibers

New, and Rebuilt, Single-Process Pickers

The Aldrich Synchronized Single Process Picking System has consistently produced more uniform card sliver than any other picking system.

Parts for Kitson Pickers Always in Stock for Immediate Delivery

AldricH MachinE

Greenwood WorkS South Carolina

BECAUSE a tremendous amount of hauling is eliminated with a Cleveland Tramrail system at one of their mills, the executives of Fieldcrest Mills, Division of Marshall Field & Company, Inc., with main offices in Spray, N. C., are enthusiastic over their overhead materials handling equipment in this mill.

Cleveland Tramrail is used in many departments. It has been found especially advantageous for the handling of beams. Since it is desirable to keep 70 to 80 warp beams ahead of the slashers, considerable space is required for their storage. Cleveland Tramrail enables them to store the beams three high when space is lacking and thereby get more beams into a given area. Also any beam can be picked up and moved direct to slashers without moving other beams on the floor.

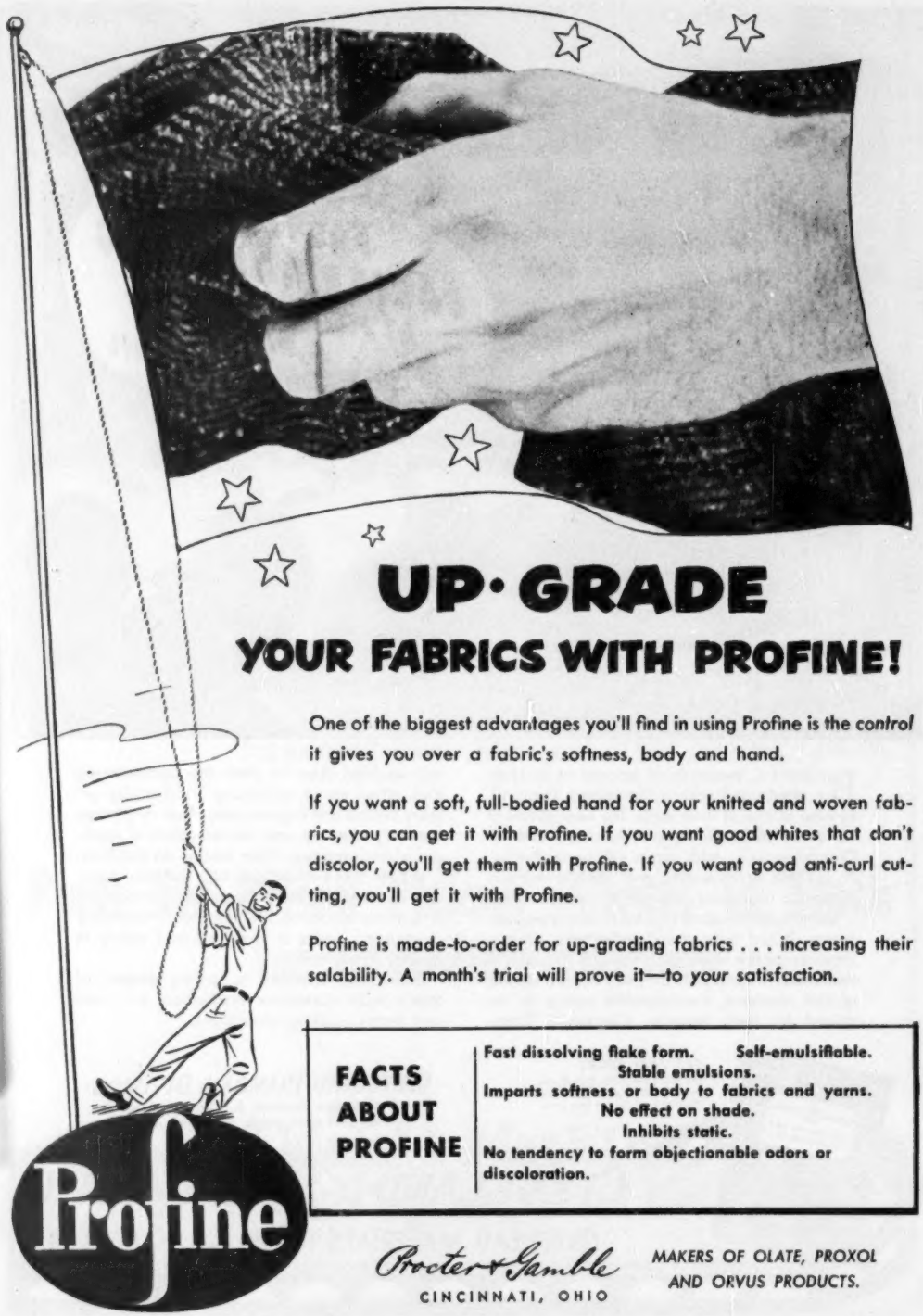
It now takes about one-fifth the time formerly required to place beams into a slasher. It is much easier on the men, too! Possibility of strained backs is removed and safety is greatly improved.

Cleveland Tramrail is aiding dozens of textile mills accelerate production, cut costs and better working conditions.

GET THIS BOOK!
BOOKLET No. 2068. Packed with valuable information. Profusely illustrated. Write for free copy.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
2944 EAST 287TH STREET, WICKLIFFE, OHIO

CLEVELAND TRAMRAIL
OVERHEAD MATERIALS HANDLING EQUIPMENT



UP·GRADE
YOUR FABRICS WITH PROFINE!

One of the biggest advantages you'll find in using Profine is the *control* it gives you over a fabric's softness, body and hand.

If you want a soft, full-bodied hand for your knitted and woven fabrics, you can get it with Profine. If you want good whites that don't discolor, you'll get them with Profine. If you want good anti-curl cutting, you'll get it with Profine.

Profine is made-to-order for up-grading fabrics . . . increasing their salability. A month's trial will prove it—to *your* satisfaction.

FACTS ABOUT PROFINE

Fast dissolving flake form. Self-emulsifiable.
Stable emulsions.
Imparts softness or body to fabrics and yarns.
No effect on shade.
Inhibits static.
No tendency to form objectionable odors or discoloration.

Profine

Procter & Gamble
CINCINNATI, OHIO

MAKERS OF OLATE, PROXOL AND ORVUS PRODUCTS.

Manufacturing says:
"WE NEED NEW TWISTERS THAT CAN PRODUCE LOW-TWIST SYNTHETIC YARNS OF TOP QUALITY AT LOWER COST."
Management says:
"PERHAPS SO! BUT YOU'VE GOT TO SHOW ME A MACHINE THAT WILL YIELD US AN ADEQUATE RETURN ON OUR INVESTMENT."

THE NEW "C6" TWISTER will satisfy BOTH requirements!

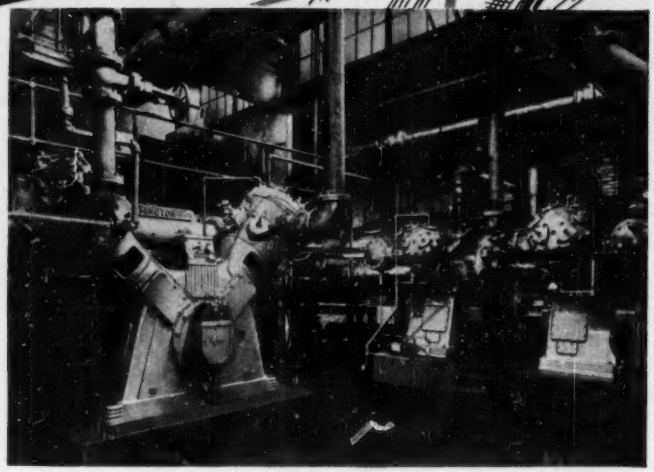
From both the production and financial viewpoints the new Whitin Model "C6" Twister is a sound investment for your mill. Performance tested by the yearly production of millions of pounds of synthetic yarn, it is designed to produce packages up to 4 lbs. with a wide selection of winds produced by Whitin patented builders. Simplicity of operation, plus ease in creeling of supply packages makes this machine popular with operators and management alike.

Write today for illustrated folder giving complete information about the model "C6" Twister and describing its many special features.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.



Three Worthington YC-2 Compressors on general air service in the Reo Motors Company Plant, Lansing, Michigan. Two of these units ran for 2½ years, the other (a later installation) for 2 years, before all three had their first routine examination. During that time they operated approximately 16 hours per day, 5 days per week, without a single shutdown for maintenance.

Worthington YC-2 Compressors Provide Reo Motors Plant With Trouble-Free, Low-Cost Air Service

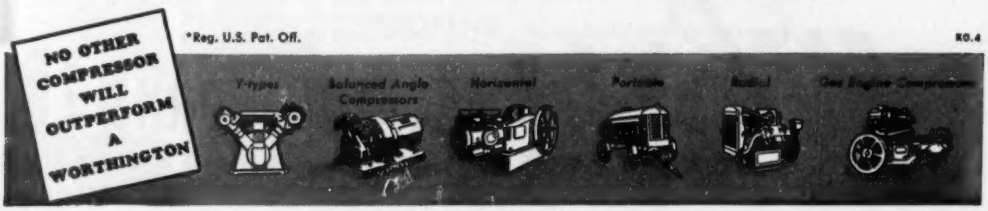
Freedom from maintenance worries is just one of the many advantages you get with Worthington YC-2 Compressors. Installation is quick, easy and inexpensive. A YC-2 comes completely assembled — there's no alignment problem and you don't need an erecting engineer. Requiring only half the space and one-quarter the foundation of same-capacity horizontals, it's ready for work as soon as connections are completed — at big savings in time, labor and money.

You get steady savings on operating costs, too, thanks to advanced features like the balanced Y-frame for higher rpm . . . the power-thrifty, instantly responsive 3 and 5-step variable capacity control . . . and Worthington Feather* Valves, most efficient and economical ever made.

GET ALL THE FACTS

on how YC-2's can cut your air costs — from the first day on! Bulletin L-667-B1A gives you the whole economy story with further proof that *there's more worth in Worthington*. Write to *Worthington Pump and Machinery Corporation, Compressor Division, Buffalo, New York.*

WORTHINGTON



THIS IS NO. 84 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

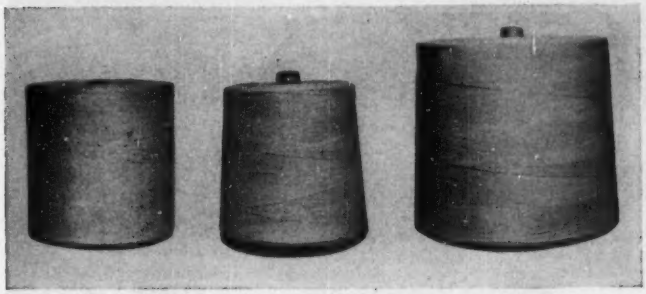


Fig. 1. Left: jute wound on the No. 6C. Center: cotton warp yarn wound on the No. 8. Right: nylon tire cord wound on the No. 45.

WINDING LARGE PACKAGES OF COARSE YARN

Coarse yarns and other heavy materials which — for reasons of economy and the requirements of later processing — cannot be wound successfully on the smaller No. 50 Precision Winder, are wound on the Nos. 6C, 8 and 45 Precision Winders.

Such yarns and materials include:

coarse cotton yarns
tire cord — cotton, rayon, nylon
carpet warp yarns — jute, wool, cotton, rayon, nylon, etc.
cordage — baling and binder twine of jute, sisal, hemp, manila
asbestos covering
venetian blind cord
paper
heavy glass yarns
mop yarns

All three machines operate on the same basic principle of the No. 50 Precision Winder; that is, the spindle speed is constant and, therefore, the yarn speed increases as the package diameter grows in size. They are, of course, heavier in construction than the No. 50 and have somewhat different attachments to accommodate the larger packages they produce and the coarser yarns wound on them.

The No. 6C and No. 8 machines handle the same kind of material — for example, cotton filling yarn for carpets — and build the same size of package — 8 in. traverse and 8½ in. diameter — but the No. 6C usually winds from an unrolling supply and the No. 8 only from an overend supply.

The No. 45 is used extensively for tire cord and paper. It builds packages with traverses up to 10 in. and diameters up to 11 in., and can take either unrolling or overend supply.

Tire Cord The No. 45 produces cones of rayon tire cord with a base diameter of 11 in. and weighing approximately 20 lb. at an average yarn speed of 300 ypm.

Carpet Yarn Carpet yarn manufacturers use Universal No. 8 Precision Winders to produce parallel tubes of wool carpet warp yarn to be used as a direct supply to the loom. The yarn is wound overend from twister bobbins and the winders are generally run at a spindle speed of 750 rpm. The average outside diameter of these packages is 5 in., although in some mills where the warp yarn is beamed, the parallel tubes are wound to an outside diameter of 8 in. In either case an 8 in. traverse is used.

Cotton filling yarn used in the manufacture of carpets is usually wound onto cones on either the No. 6C or No. 8 Winders equipped with a coning attachment — the quick-doffing type. Cones have 3 deg., 51 min. taper, have 8 in. traverse and 8½ in. maximum diameter.

Paper Yarn The No. 45 machine winds paper yarn for paper-backed carpets onto cones which are used for filling or onto parallel tubes which may be used either on an unrolling creel for warping or an unrolling creel directly in back of the loom. The following data is representative of the spindle speeds and package size that can be attained when winding paper yarn onto cones from an overend supply:

Supply Spool	3½ in. dia. head, 1⅞ in. dia. barrel
Paper Yarn Diameter	.040 in.
Spindle Speed	600 rpm
Winding Container	3 deg., 51 min. paper cone
Yarn Traverse	10 in.
Finished Cone, base dia.	11 in.
Net Weight of Yarn on Cone	17 lb. 8½ oz.

December 1950

23.0.3

WINDING AND TWISTING MACHINERY FOR NATURAL AND SYNTHETIC YARNS

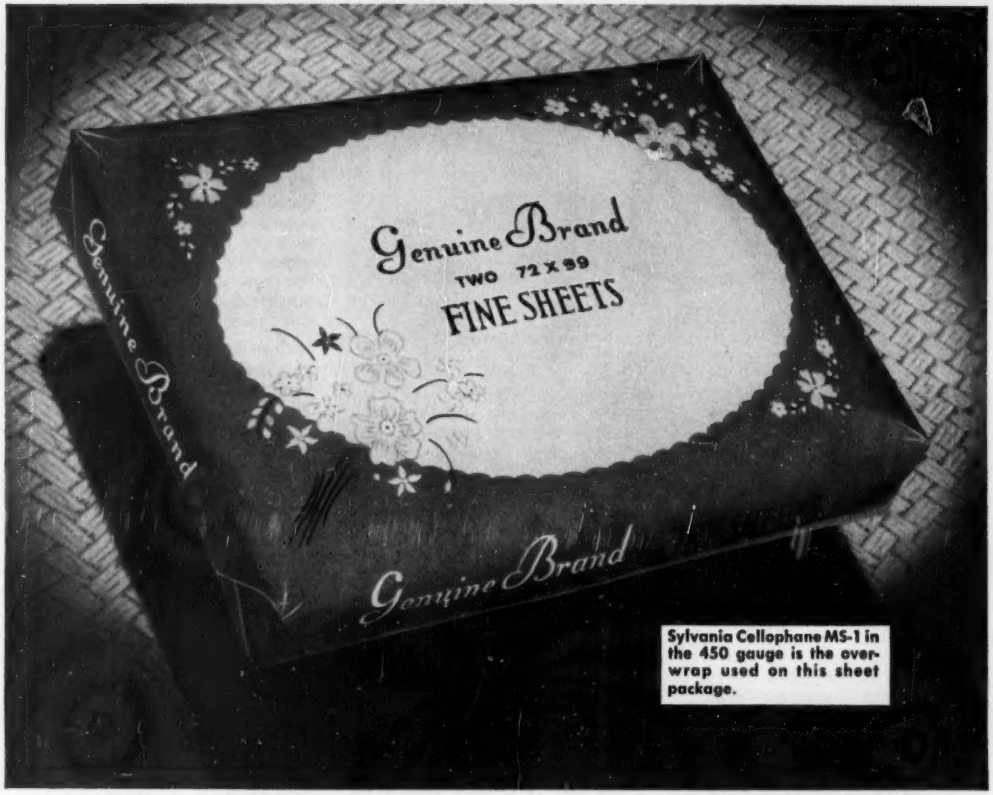
UNIVERSAL WINDING COMPANY

Atwood Division

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA CHICAGO LOS ANGELES MONTREAL and HAMILTON

SYLVANIA CELLOPHANE

The PLUS that means more sales!



Sylvania Cellophane MS-1 in the 450 gauge is the overwrap used on this sheet package.

Specific qualities engineered for your product tells why:

1 Sales Appeal **3** Durability
2 Transparency **4** Dust Protection
5 Low Cost

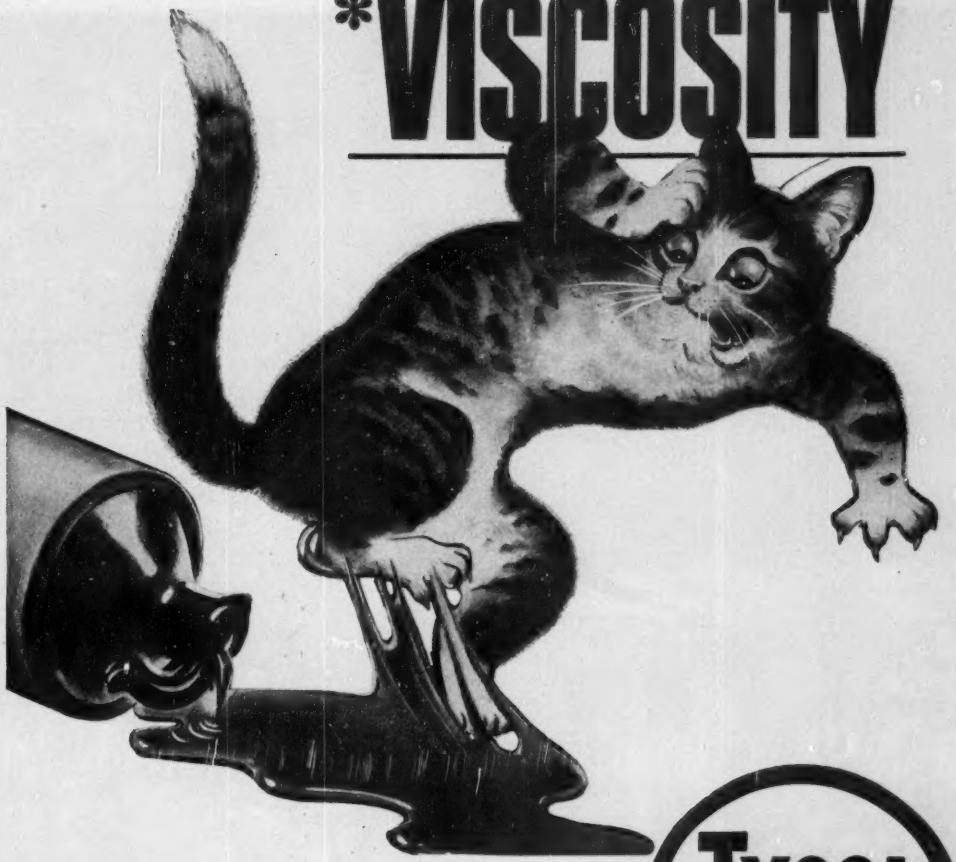
Mr. Cellophane is always available to help you solve your packaging problems. Talk over your requirements with your Sylvania representative or write us mentioning the specific application in which you are interested. Address Market Development, Dept. TI-1.

SYLVANIA CELLOPHANE

SYLVANIA CELLOPHANE

SYLVANIA DIVISION AMERICAN VISCOSE CORPORATION
Manufacturers of cellophane and other cellulose products since 1929
General Sales Office: 1617 Pennsylvania Blvd., Philadelphia 3, Pa.
Plant: Fredericksburg, Va.

*VISCOSITY



All equipment will last longer — give better service — if you use the proper lubricant. That's why you'll find it profitable to use Tycol high quality oils and greases.

There's a reason! No matter what your lubrication need — for roll neck bearings or mine cars, Diesels or high speed textile spindles, turbines, paper calenders or steam engines . . . where *VISCOSITY, penetration, extreme pressure is a factor — Tycol has a lubricant suited to your specific requirements.

Refined from selected crudes, Tycol lubricants are exceptionally resistant to breakdown which means greater economy . . . longer life for every type of equipment.

Let us show you the extra value in every measure of Tycol lubricants. Write your nearest Tide Water Associated office today.

TYCOL

INDUSTRIAL LUBRICANTS

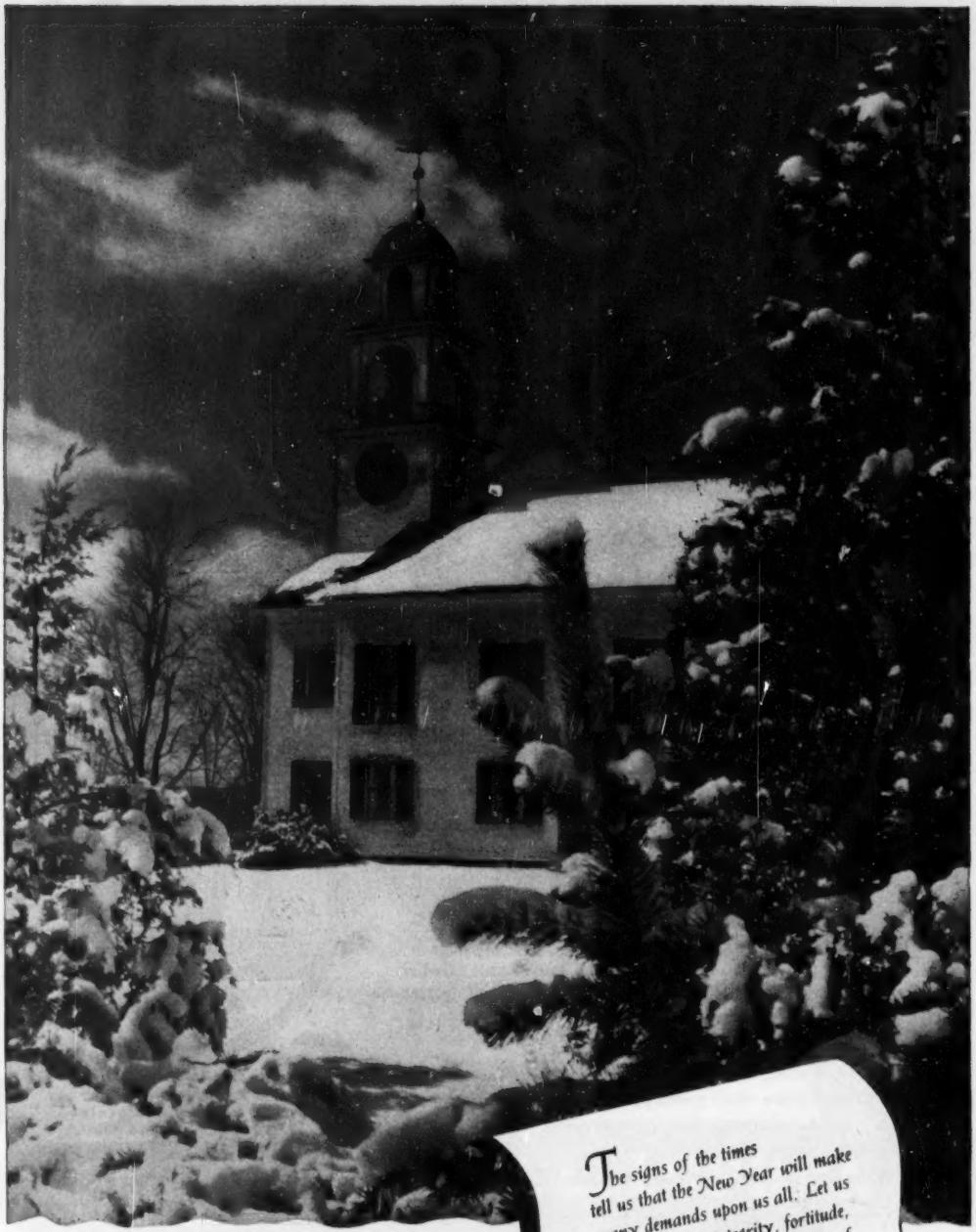
Boston • Charlotte, N. C. • Pittsburgh • Philadelphia • Chicago Detroit • Tulsa • Cleveland San Francisco • Toronto, Canada

TIDE WATER ASSOCIATED OIL COMPANY

17 BATTERY PLACE - NEW YORK 4, N. Y.

***LEARN WHAT THIS PRODUCT CHARACTERISTIC MEANS TO YOU — READ "LUBRICANIA"**
This informative handbook, "Tide Water Associated Lubricania," gives clear, concise descriptions of the basic tests used to determine important properties of oils and greases. For your free copy, write to Tide Water Associated Oil Company, 17 Battery Place, New York 4, N. Y.

REFINERS AND MARKETERS OF VEEDOL — THE WORLD'S MOST FAMOUS MOTOR OIL



The signs of the times tell us that the New Year will make many demands upon us all. Let us meet them with integrity, fortitude, and with a complete acceptance of our personal responsibilities.

HOWARD BROS. MFG. CO. WORCESTER 8, MASS.

Harry C. Bdey

President

Thomaston Cotton Mills, Inc., Georgia, use Gates Vulco Ropes on the multiple V-Belt drives of the ply twisters shown in the photograph. In this application, the Gates Vulco Ropes have been averaging 31,200 hours of service—the equivalent of 13 years at 8 hours a day.

This Simple Test Tells WHY the Concave Sides of Gates Vulco Ropes Mean *Longer Belt Life!*

Prove this *yourself*—in two minutes' time.

Take any V-belt that has *straight* sides. *Bend* that V-belt while you grip its sides between your fingers and your thumb. You will *feel* the sides of the belt *bulge out*—as shown in figure 1-A, below.

Clearly, that outbulge forces the sides of the belt to press *unevenly* against the V-pulley—and this concentrates the *wear* where the bulge is greatest.

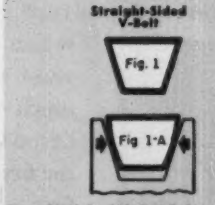
Now, make the same test with the belt that is built with the Concave Sides—the Gates Vulco Rope.

Figures 2 and 2-A show clearly what happens when you bend a Vulco Rope. Instead of *bulging*, the precisely engineered Concave Sides merely *fill out* and become perfectly straight. There is no side-bulge. This belt, when bent, precisely fits its sheave groove.

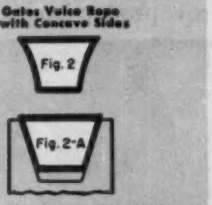
Because there is *no bulging*, the sides of the Gates Vulco Rope always grip the *full* face of the V-pulley *evenly* and therefore wear *uniformly*—resulting in *longer belt life* and *lower belt costs for you.*

Only V-belts made by Gates are built with concave sides. Whenever you buy V-belts, be sure that you get the V-belt with the Concave Sides—The Gates Vulco Rope!

What Happens When a V-Belt Bends



How Straight-Sided V-Belt Bulges in Sheave-Groove. Sides Press Unevenly Against V-Pulley Causing Extra Wear At Point Shown by Arrows.



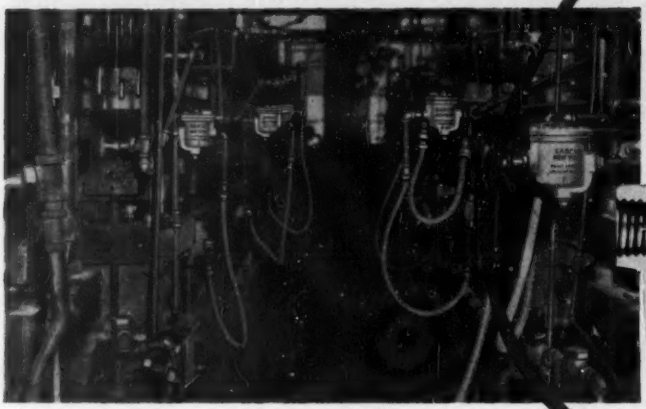
The Concave Sides Fill Out to a Precise Fit in the Sheave-Groove. No Side Bulge! Sides Press Evenly Against the V-Pulley—Uniform Wear—Longer Life!

CS-311

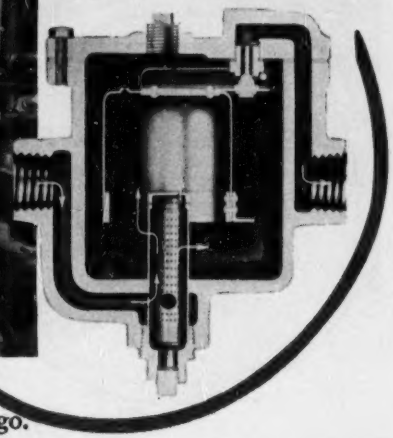
THE GATES RUBBER COMPANY
DENVER, U. S. A.
The World's Largest Makers of V-Belts

Gates VULCO ROPE DRIVES
Engineering Offices and Jobber Stocks IN ALL INDUSTRIAL CENTERS of the U. S. and 71 Foreign Countries

five million TRAP DAYS *of Satisfactory Operation with*



A few of the 100 Sarco Bucket Traps in this Plastics Plant



Here's a "test" to end all tests as far as steam traps go. More than 100 Sarco Bucket Traps in operation 24 hours a day most of the time for more than 15 years! As the manager of this plastics plant puts it "They are tops in satisfaction—what more can I say." And the mechanic who put them in and has had charge of the steam service for 22 years, says "Sarco ended our trapping problems 15 years ago."

IT COSTS LESS TO BE RIGHT — The invariable result of adding Sarco Steam Traps and Temperature Controls to improve production is a *saving in fuel costs.* Heat where you want it, when you want it — never too much — or too little or too late. To be right the first time see Sarco first.

SARCO BUCKET STEAM TRAPS

SARCO Bucket Steam Trap clears condensate instantly. And it costs less to install because of the built-in strainer (at no extra cost) and the straight-thru connection which saves piping materials, time and labor. Ask for Catalog No. 350.

310

SARCO COMPANY, INC.
Represented in Principal Cities
Empire State Building, New York 1, N. Y.
SARCO CANADA, LTD., TORONTO 5, ONTARIO

SARCO SAVES STEAM

IMPROVES PRODUCT QUALITY AND OUTPUT

YOUR BEST BUY-- NATIONAL ANILINE VATS

Better color—bigger sales!
Put action-packed sales appeal
in your new lines with
the distinctive color effects
of National Aniline Dyes

NATIONAL ANILINE DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, N.Y.

Boston Providence Philadelphia Chicago San Francisco
Portland, Ore. Greensboro Charlotte Richmond Atlanta
Columbus, Ga. New Orleans Chattanooga Toronto

Get out from under that OIL CAN!

Watch out! That oil can is full of grief. When you lubricate plain bearings everyday, a lot of oil splatters around. It doesn't take much to goo up machinery and put operations on the blink. And a few drops on moving parts soil and spot yarns and fabrics. ✓ ✓ ✓ You can step out from under this costly mess by replacing inefficient plain bearings with clean, *grease-lubricated* Fafnir Ball Bearing Textile Units. They need attention infrequently, cut maintenance to the bone. Sealed against leakage and contamination, they operate machines smoother, longer, at higher speeds. ✓ ✓ ✓ Your nearby Fafnir Distributor will be glad to help you select exactly the right Fafnir Bearing or Unit for your particular needs, no matter what they may be. The Fafnir Bearing Company, New Britain, Connecticut.

Rocker Shaft Unit
for Model "E" Draper Loom

Rack-combing Roll
for Saco-Lowell Hopper

FAFNIR
BALL BEARINGS
MOST COMPLETE LINE IN AMERICA

Improved Quality? **Yes!**

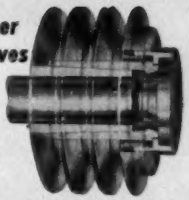
Increased Production? **Yes!**

Reduced Costs? **Yes!**

Textile Mills Get All 3 Benefits when they use AMERICAN DRIVES

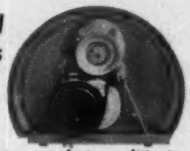
Whatever your drive problems, you will benefit by consulting our drive engineers. They offer you the advantages of American's 50-year drive experience in textile drive applications.

New! American Double-Taper Adjustable-Speed Drives



The new American Double-Taper Adjustable-Speed Drives permit textile men to improve quality, increase production and reduce costs because they make it possible to get just the right speed at both low first-cost and low maintenance cost. Vibration, fretting corrosion and freezing are eliminated. The secret of the operating advantages of these drives is in the double-taper hub construction of American Adjustable-Diameter Sheaves. These double-taper hubs are made up of tapered bushings which make the sheaves easy to mount and dismount and tapered sleeves which lock all flanges into "solid", trouble-free sheaves. Send the coupon below for complete information on these new unique drives.

New! American Individual Cotton Card Drives



These new, modern card drives give textile mills all the advantages of improved quality, increased production and reduced cost demanded by today's market. They make possible more efficient plant layout, better lighting, improved air conditioning and better all-around plant "housekeeping". Improved quality and increased production are possible because these drives eliminate line shafting and permit a 20% variation in speed for each individual card. First cost is low because the drives are simple, consisting of a single-reduction helical-gear unit, an adjustable-speed V-belt drive, and a unique centrifugal clutch, all driven by a standard motor with standard controls. The drives are easy and inexpensive to install and nest compactly in the card arch with no floor obstructions and ample aisle clearance. Mail the coupon below for the facts on these modern Individual Card Drives.

OTHER AMERICAN DRIVES—Designed for Efficient Textile Mill Applications

American *Econ-o-matic* Spinning Frame Drives

These drives eliminate belt slip because the motor mounting is designed so that the reaction torque of the motor automatically adjusts belt tension to the load. High starting tension for heavy starting load—normal running tension for normal running load.

American Reduction Drives

Shaft-mounted American Reduction Drives give you any speed below 154 r.p.m. They are easy to install, are quiet and trouble-free. They are available with the unique American Torque-arm Overload Release which provides instantaneous mechanical protection for both machine and drive in case of jam or shock loads.

American *Wedgbelt* and Flat Belt Drives

American Wedgbelt Drives are clean, quiet and efficient. Sheaves have split tapered bushings for easy mounting and dismounting.

American Steel Split Pulleys are strong, light in weight and true-running. American Hi-Torque Motor Pulleys, made of compressed and treated plywood, provide extra friction and wear qualities.

AMERICAN DRIVES

The American Pulley Company
4230 Wissahickon Avenue, Philadelphia 29, Pa.

Please rush us complete engineering data on the following American Drives:

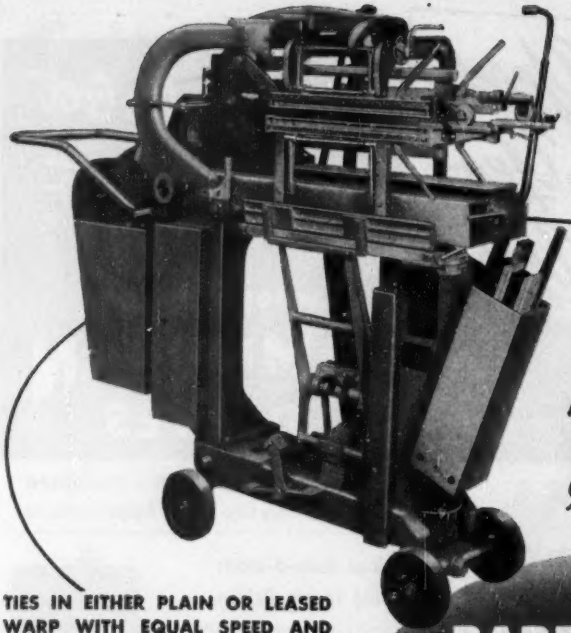
- ☐ Double-Taper Adjustable-Speed Drives
- ☐ Individual Cotton Card Drives
- ☐ Econ-o-matic Spinning Frame Drives
- ☐ Reduction Drives
- ☐ Wedgbelt and Flat Belt Drives

NAME.....

COMPANY.....

ADDRESS.....

CITY..... ZONE.... STATE.....

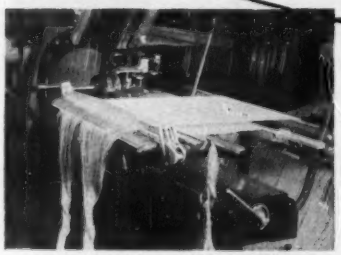


BARBER COLMAN

Reduce Costs!
Increase Production!
Improve Products!

BARBER-COLMAN *Portable* WARP TYING MACHINE

TIES IN EITHER PLAIN OR LEASED WARP WITH EQUAL SPEED AND EFFICIENCY



Model "LL" machine set up for tying in a plain cotton warp.

The same machine as above, now set up for a leased cotton warp.

A Barber-Colman PORTABLE Warp Tying Machine can be a *very profitable* investment for you. This machine offers a fast and accurate means for tying-in new warp *at the loom.* It can be handled in confined and hard-to-reach places and in loom alleys as narrow as 12". Overall production capacity averages 3500 to 4500 ends per hour, higher on high sley warps. Models are available to handle cotton, wool, worsted, silk, or synthetics (including monofilaments) and plain warps or leased warps or both. Tying is accurate and uniform and so much more efficient than common hand methods that the machine will pay for itself quickly in cost savings *even when not in constant use.*

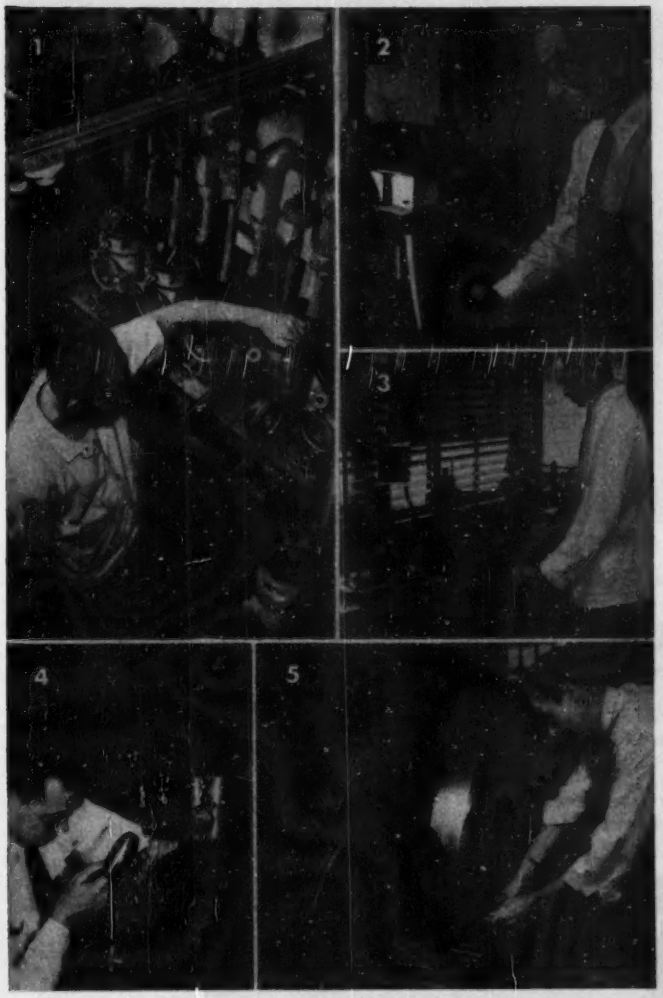
AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND MUNICH, GERMANY

New booklet tells the story of Avisco chemical research



1 – Pilot plant cellulose acetate spinning machine for the evaluation of experimental acetate rayons.

2 – Lab-scale steeping press used in preparing small batches of soda cellulose.

3 – Spinning a solution of man-made resin on compact laboratory scale equipment.

4 – Delving into nature's innermost secrets with the Department's electron microscope.

5 – Putting a tire containing experimental rayon cord to the test.

The work of the Avisco Chemical Research Department is featured in a new illustrated booklet which has just been released. "Chemical Research at American Viscose" covers the ideas back of the founding of the Department and contains a brief account of the objectives and organization of this important branch of Avisco.

The Chemical Research Department has participated in the creation and improvement of many processes and products essential to the textile industry. Its contributions to such products as high tenacity yarns, rayon tire cord and crimped staple are mentioned.

The booklet, "Chemical Research at American Viscose," is of interest to everyone taking part in the steady improvement of modern fabrics. Copies are available on request.

MAKE USE OF *Avisco* 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

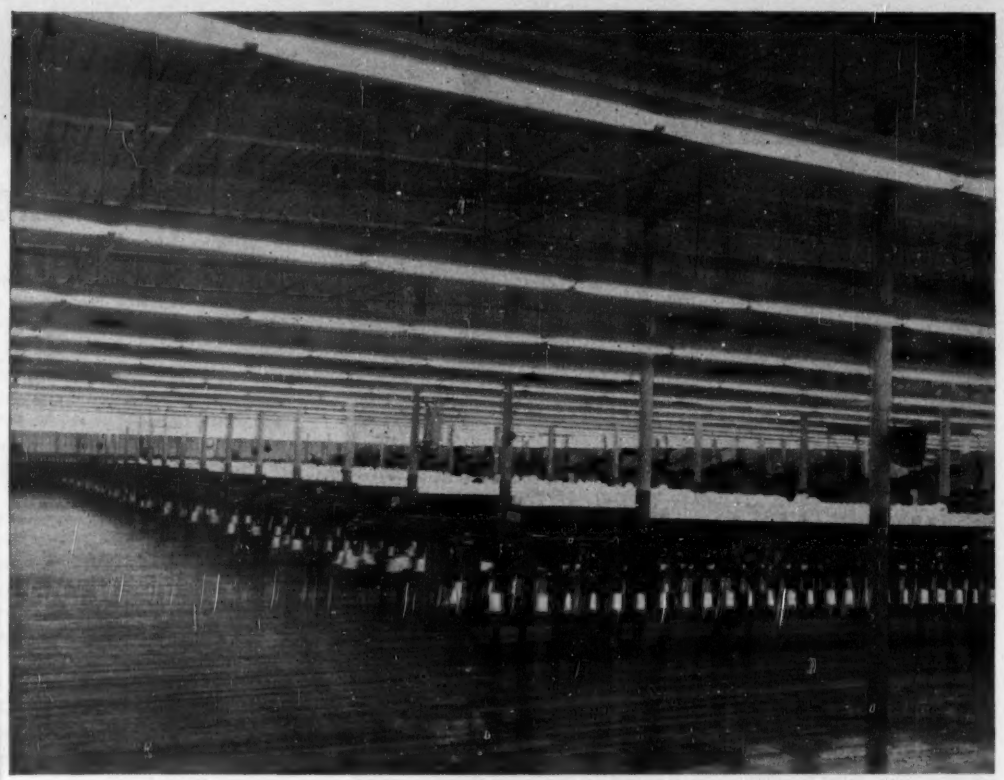
AMERICAN VISCOSE CORPORATION

America's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

ABBOTT MACHINE COMPANY

INSTALLATION OF AUTOMATIC RAYON QUILLERS



Twelve Abbott Automatic Rayon Quillers with Pinboard Attachments are run by only *six* operators in the above mill installation. Such an efficient installation achieves lowest operating cost with maximum production per operator.

Empty loom bobbins are automatically loaded and filled. Full loom bobbins are automatically doffed onto pinboards, which permits one operator to handle up to 240 spindles.

Abbott Quillers offer the lowest investment cost in the automatic winding field.

One of our representatives will be glad to study your filling winding requirements and submit a proposal for your consideration.

ABBOTT MACHINE COMPANY

FACTORY AND MAIN OFFICE

WILTON, NEW HAMPSHIRE

SOUTHERN OFFICE GREENVILLE SOUTH CAROLINA

Hidden power costs in your spinning room from increased oil viscosity?

GULFSPIN maintains its original viscosity even after extended service

—keeps power consumption low

Yes, oil viscosity has an important influence on power consumption of spinning frames! The higher the viscosity the more power consumed because of increased frictional drag.

Dirt, lint, water, and oxygen act to thicken spindle oils so that after several month's service an 80 Second oil may have a viscosity of 90-100 SUV at 100°F. As a result power costs in the spinning room can be appreciably higher than normal. And this increased cost is generally hidden because few mills run periodic power checks on spinning frames.

That's one important reason why it pays to use Gulfspin. This outstanding new oil does not undergo any appreciable increase in viscosity even after extended service. Thus it is possible to make substantial savings in power costs.

Gulfspin has many other characteristics which make it effective for spindle lubrication; it is not only resistant to the formation of sludge, but also prevents sludge from depositing on spindle shafts and bolsters—thus keeps spindles clean; it reduces wear because of excellent oiliness characteristics; and helps effectively to protect spindle parts against rust.

See for yourself on your frames that this new spindle oil is better in every way. Write, wire, or phone your nearest Gulf office and ask a Gulf Lubrication Engineer to call. Gulf Oil Corporation · Gulf Refining Company, Gulf Building, Pittsburgh, Pennsylvania.

FIFTY YEARS OF SERVICE
1901 GULF 1951
PETROLEUM AND ITS PRODUCTS

H. BRINTON COMPANY

CIRCULAR KNITTING MACHINES

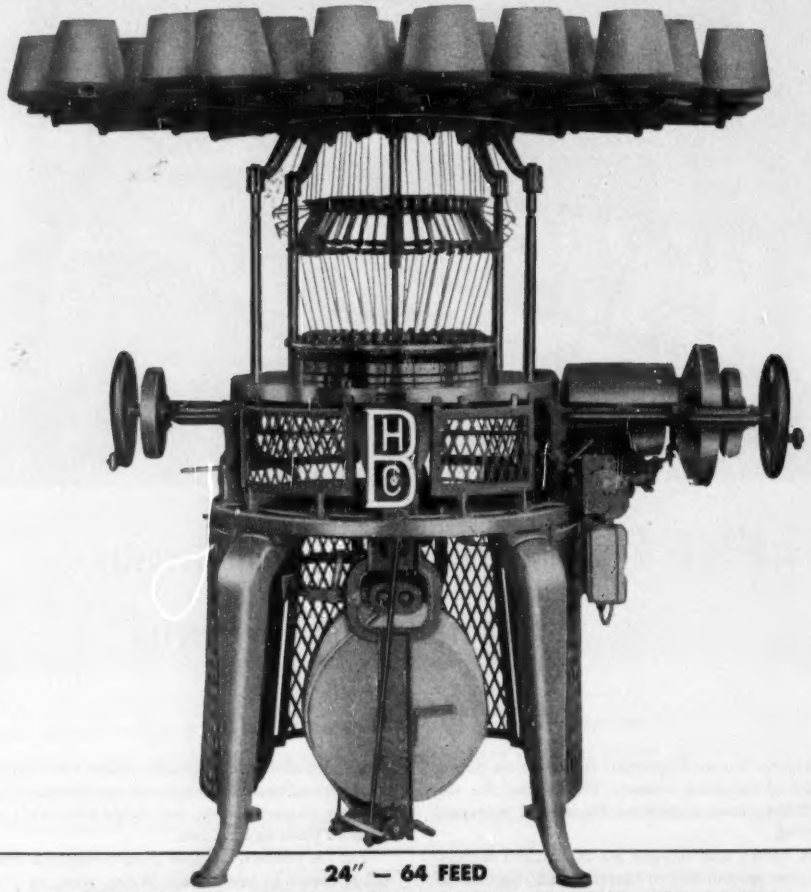
KENSINGTON AVE. & M STREET • PHILADELPHIA 24, PA., U. S. A.

This trademark on your machines represents more than half a century of experience.

CABLE ADDRESS-BRINTCO

Exclusive Representatives In Principal Textile Centers Throughout The World

Underwear • Polo Shirts • Bathing Suits • Knitted Dress Fabrics • Sweaters • Knitted Gloves and Mittens • Fancy Cuffs for Hosiery • Ribbers • Wire Pot Cleaners Tubular Knit • Silk • Wool • Worsted • Rayon • Cotton • Blended Yarn



24" — 64 FEED

BRINTON PLAIN JERSEY MACHINE MODEL-MERCEDES: STYLE RMP

This is the high production machine which makes that fine balbriggan or jersey fabric for underwear — T shirts — basque shirts — polo shirts and a wide variety of knitted articles. Maximum number of feeds for maximum quality of fabric. Manufactured in body sizes 10" to 26" in diameter with 28 to 64 feeds with cushion cams, which always assure control of needles.

When you install a BRINTON machine, you get performance resulting from proved operation. You get *"more better"* fabric at less cost. Individual raising cams for each feed. Each stitch cam has a cushion cam at the bottom which permits the making of a "more even stitch" and smoother fabric. Average production is 75 to 80 yards per hour on every machine size.

The Production of the Machine

will vary according to the number of needles per inch and the yarn being used. Inasmuch as the number of feeds increases with the diameter, the production in yards is approximately the same on any diameter machine.

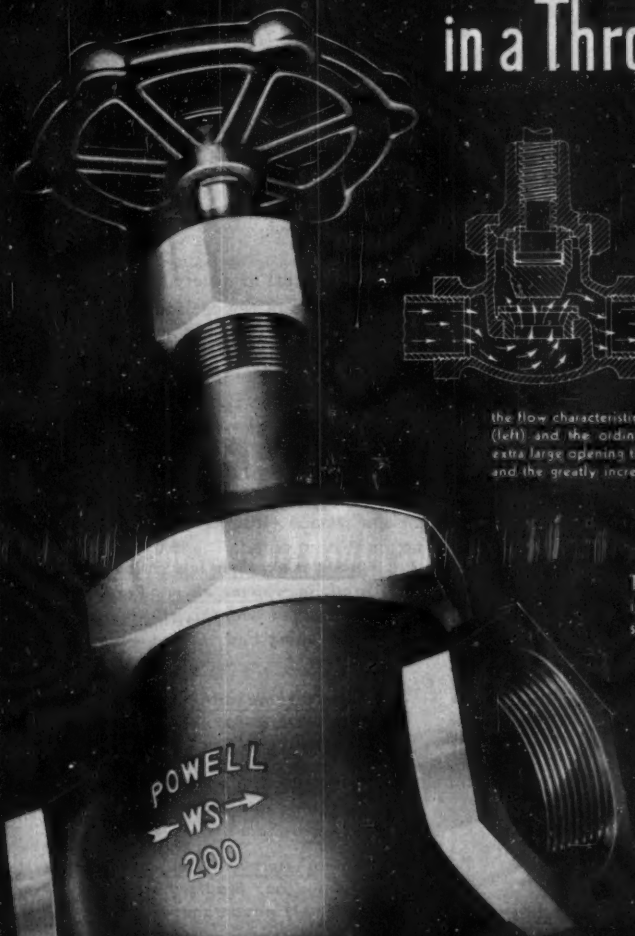
With an average yarn, on a machine 20 needles per inch, the production will be approximately eighty yards per hour. This will vary somewhat according to conditions.

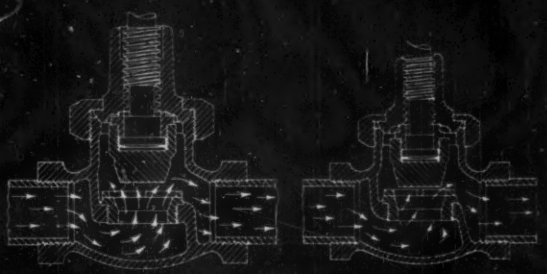
The standard machines are between 14 and 24 needles per inch and can be made finer for rayon.

WRITE FOR BULLETIN

H. BRINTON COMPANY • Kensington Ave. and M Street • Philadelphia 24, Pa., U. S. A.

POWELL gives you *Full Flow* in a Throttling Valve





COMPARE
the flow characteristics of the new Powell "W.S." Valve (left) and the ordinary globe valve (right). Note the extra large opening through the seat (nominal pipe size) and the greatly increased lift of disc, when wide open.

This is actually a dual service valve in that it can be throttled to any desired degree, yet, when wide open; permits FULL FLOW through the body. Thus turbulence and pressure drop are reduced to a minimum—a triumph in engineering that exemplifies Powell's continual leadership in the field of industrial valve design.

Powell "W. S."
Bronze Globe Valve
Fig. 2608

Write for folder giving full description of the many advanced engineering features of this valve

POWELL

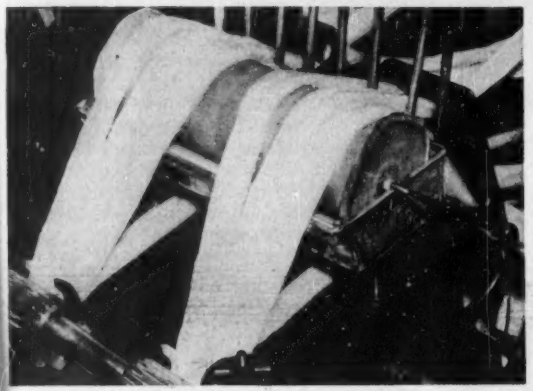
The WM. POWELL CO., 2525 Spring Grove Ave., P. O. Box 106, Station B, Cincinnati 22, Ohio

the FEW extra ¢ents that make a LOT of sense

When it comes to producing worsted yarn, there is always this important question: Should a spinner spend a few more cents than absolutely necessary when processing top, to try and achieve more efficient production and better finished products? In the case of Nopco* 1656-R, the answer is "yes".

Today; the price of top is the highest in history. Thus the few additional cents involved in the purchase of Nopco 1656-R become insignificant in the face of over-all costs. Moreover, the unique advantages afforded by this remarkable oil far outweigh its price differential when compared to alternatives. Just consider:

NOPCO* 1656-R...



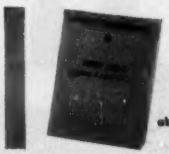
*Reg. U. S. Pat. Off.

1. ***provides excellent lubrication and eliminates static in worsted sliver. Result: no fly from top treated with this oil—fewer ends down in spinning and winding—much less brush waste;***
2. ***increases the drag, and thereby gives a better draft—resulting in more even and cleaner yarn;***
3. ***scours out with phenomenal ease—actually converting into suds when used with alkali, polyphosphate and water;***
4. ***applies equally to all production systems —American, Bradford or French—and is extremely advantageous on pin drafters.***

Yes, it will profit you to use Nopco 1656-R wherever you employ a lubricant in your top-processing procedure. And it will profit you to specify Nopco 1656-R, as a number of spinners already do, whenever you purchase oil-combed top. You'll pay a few more cents above "rock bottom" perhaps, but when you examine your finished yarns, you'll know you have produced high quality products with surprising economy.

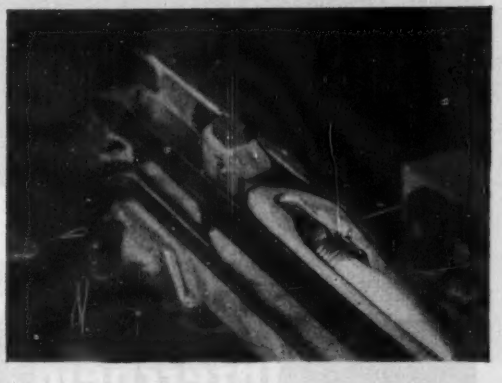
NOPCO
EVOLVED THRU RESEARCH

NOPCO CHEMICAL COMPANY
HARRISON, NEW JERSEY
Branches: Boston, Chicago, Cedartown, Ga., Richmond, Calif.



Send for your FREE copy of this bulletin giving detailed information about Nopco* 1656-R

For perfect Teamwork



Follow-thru with ORANGE LINE LOOM LEATHERS

Here are three members of the big team *in action!* . . . for this photograph was taken at 1/20,000th of a second while the loom was doing 175 picks per minute!

It's one picture in a series of amazing "stop action" photographs showing how G&K Textile Leathers *follow-thru* to prevent shuttle bounce, cut shuttle cost, stop kinky filling . . . Here's proof that you can *follow-thru with leather* for better output, less down-time, bigger profits. Start with the *Big Three* in the famous G&K Orange Line:

First, *the famous PICKMASTER picker,* precision-built of special Hairitan® Leather — the only material that can withstand the repeated blows of the shuttle spur without causing shuttle bounce or getting over-heated. Shuttle bounce causes kinky filling, and over-heated spurs cause trouble.

Second, *the famous BOXMASTER Hairitan Leathers.* Again a special Hairitan Leather that maintains the original dense, high-friction surface as it wears. No coarse fibres to catch filament rayon —no rough surface spots to interfere with the smooth boxing of the shuttle. You can adjust your boxes and forget them when you cover with BOXMASTER Leathers.

Third, *the famous Hairitan Check Strap,* hair-on or hair-off, straight or endless types. These are built to *flex* and *flow* twice a second, month after month to cushion the picker stick without wearing on the edges. Only leather can stand up in this tough service — and G&K Check Straps of Hairitan Leather are proving that a good check strap is a Loom Fixer's delight!

Follow-thru with leather for better, more profitable loom hours. And look to Graton & Knight and its southern affiliate, Dixie Leather Corporation, for the best in TEXTILE LEATHERS.

GRATON AND KNIGHT®

DIXIE LEATHER CORPORATION

Textile Leathers

FAMOUS ORANGE® LINE TEXTILE LEATHER

GRATON & KNIGHT COMPANY, WORCESTER, MASS. • DIXIE LEATHER CORPORATION, ALBANY, GEORGIA *Affiliate*

It pays

Interchem® Dyes

ACETATE DYES

ARIGEN® (Stabilized Azoics)

NAPTHOLS

BASES

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FOR **MACHINE PRINTING**

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(Copper-8-Quinolinolate)

(DURABLE MILDEW-PROOFING AGENT)

*Reg. Trade-Mark Monsanto Chemical Company

Division

QUALITY
UNIFORMITY
SERVICE

PROTECTION PLUS...

for Every Phase of Wool and Worsted Processing with EMERY TWITCHELL OILS!

LUBRICITY

Excellent lubricating characteristics minimizes fiber abrasion and resulting breakage. Increases carding efficiency and provides low fly loss which subsequently results in high wool yield.

SCOURABILITY

All Twitchell Oils scour very readily with a minimum of soap to insure a low residual oil content. Twitchell 7430 Oil is a self-scouring type and practically no soap is required.

EMULSION STABILITY

All are self-emulsifiable and produce unusually stable emulsions that will not curd. The extremely small particle size provides quick even penetration and spreading which results in uniform oil distribution to give uniform lubrication.

NON-STAINING

Oils will not discolor yarns, oxidize, heat up or develop odors even after prolonged storage. Twitchell 7420 is compounded especially for whites and pastels where any trace of discoloration is detrimental.

NON-CORROSIVE

High stability Twitchell Oils will not corrode processing equipment nor deteriorate condenser tapes. Will not gum up card clothing or other parts.

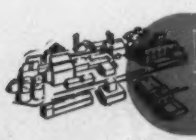
ECONOMY

The processing economy resulting from outstanding performance, coupled with their low initial cost, make Twitchell Oils the best money value for high quality production.

A selection of Woolen and Worsted Oils is offered to accommodate various processing methods, fibers and fabrics. Choose the Twitchell Oil that best meets your requirements.

PRODUCT	LUBRICITY	SCOURABILITY	NON-STAINING	APPLICATION
Twitchell 7410 Wool Oil	Excellent	Very Good	Very Good	Oil or Emulsion
Twitchell 7420 Worsted Oil	Excellent	Excellent	Excellent	Oil or Emulsion
Twitchell 7430 Oil	Excellent	Self-scouring	Very Good	Emulsion only

For a recommendation to fit your particular need, contact our Sales Service Department.



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ERIEZ MAGNETIC ATTRACTIONS

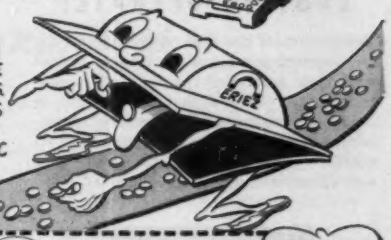
ERIEZ MANUFACTURING CO., ERIE, PA., U.S.A. • PRODUCERS OF MAGNETIC SEPARATORS AND SELLERS OF (RCA) ELECTRONIC METAL DETECTORS

RUBBER GLOVE MAKERS...WERE PLAGUED WITH SMALL HOLES IN THEIR PRODUCT. CAUSE: **TRAMP IRON** SPECKS IN THE LIQUID LATEX RUBBER...REMEDY: AN **ERIEZ** STAINLESS STEEL-BODIED MAGNETIC TRAP IN THE PROCESSING PIPELINE. IRON PASSAGE WAS CHECKED ENTIRELY. WORKS, TOO, IN FOOD LINES OR IN ANY LIQUID FLOW LINE.

PRODUCTION INCREASED 1200% ON ONE OPERATION AT L.C. SMITH AND CORONA TYPEWRITERS, INC. .....

...WHEN **ERIEZ** PERMANENT MAGNETIC PULLEYS WERE PUT IN BELT CONVEYOR LINES TO SEPARATE METAL PARTS FROM TUMBLING STONES. NEW **ERIEZ** ALNICO V **ATOM** MAGNET PULLEYS ARE THE STRONGEST KNOWN!

FOR SORTING PENNIES...WHITE (STEEL) ONES FROM COPPER....U.S. MINTS IN PHILADELPHIA AND SAN FRANCISCO CHOSE POWERFUL **ERIEZ** MAGNETIC SEPARATORS. **ERIEZ** NEW PERMANENT PLATE MAGNETS ....KNOWN AS **ATOM** AGNETS.....SEPARATE ALMOST ANY MAGNETIC FROM NON-MAGNETIC MATERIAL.



METAL IN CORN FLAKES... CAN BE TOUGH ON TEETH AND STOMACH. TO KEEP ALL METAL OUT OF ITS CEREAL PRODUCTS, *GENERAL MILLS* USES THE R.C.A. ELECTRONIC METAL DETECTOR, SOLD BY **ERIEZ**. IT WARNS AGAINST ANY METAL AS SMALL AS .039" IN DIAMETER!

RETURN THIS COUPON.

ERIEZ MANUFACTURING COMPANY
1501 EAST 12TH STREET, ERIE, PA.

MY CONTAMINATION OR SEPARATION PROBLEM IS:

_____

_____

PLEASE SEND LITERATURE ☐
HAVE REPRESENTATIVE CALL ☐ PROMPTLY ☐ WHEN IN AREA

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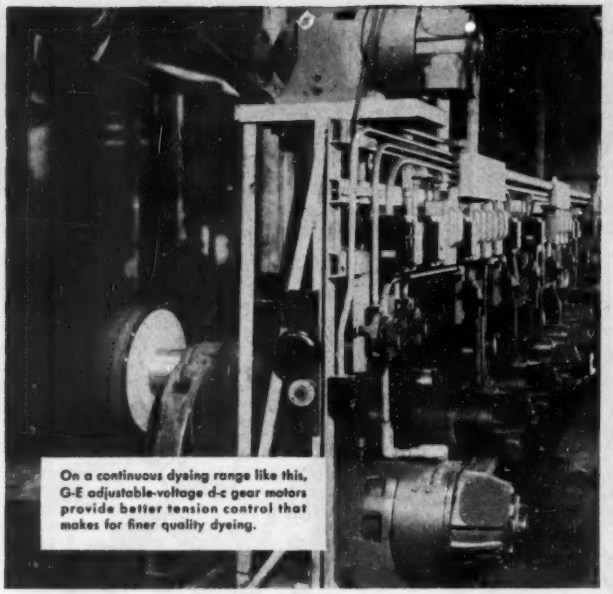
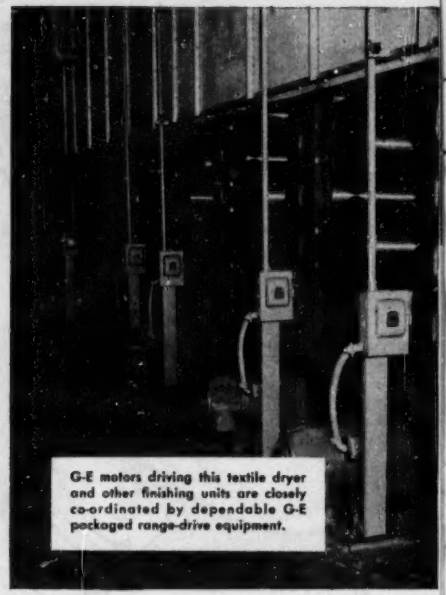


On a continuous dyeing range like this, G-E adjustable-voltage d-c gear motors provide better tension control that makes for finer quality dyeing.



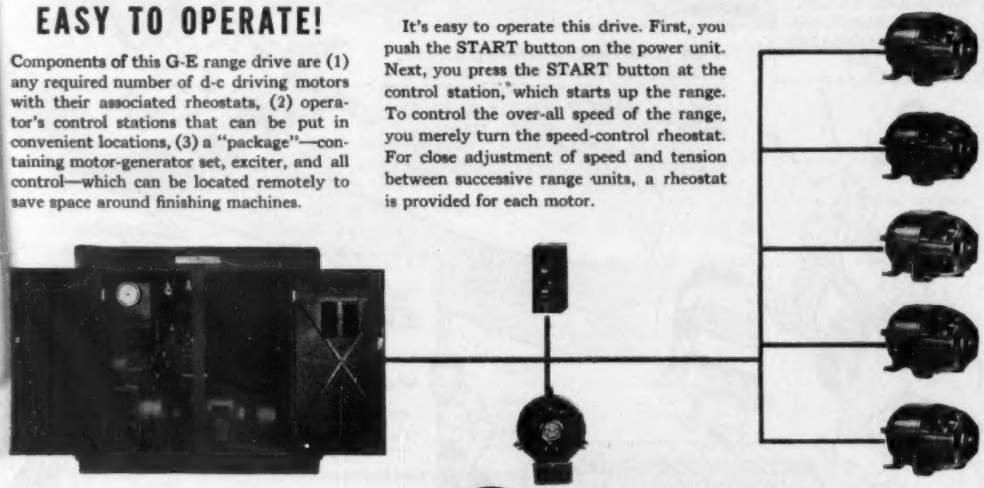
G-E motors driving this textile dryer and other finishing units are closely co-ordinated by dependable G-E packaged range-drive equipment.

Now—a Packaged

EASY TO OPERATE!

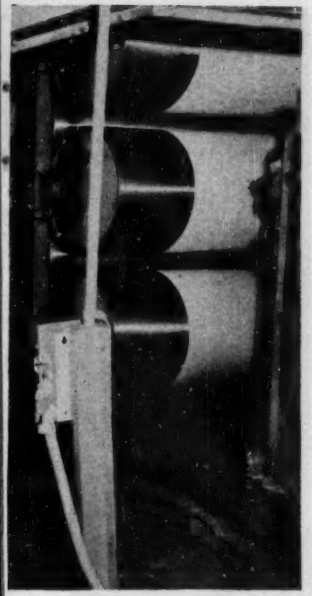
Components of this G-E range drive are (1) any required number of d-c driving motors with their associated rheostats, (2) operator's control stations that can be put in convenient locations, (3) a "package"—containing motor-generator set, exciter, and all control—which can be located remotely to save space around finishing machines.

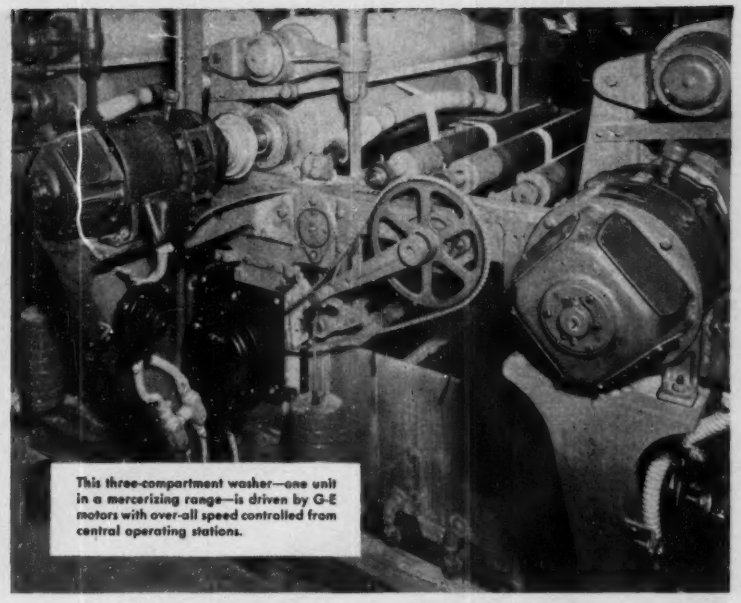
It's easy to operate this drive. First, you push the START button on the power unit. Next, you press the START button at the control station, which starts up the range. To control the over-all speed of the range, you merely turn the speed-control rheostat. For close adjustment of speed and tension between successive range units, a rheostat is provided for each motor.



GENERAL ELECTRIC

654-16





This three-compartment washer—one unit in a mercerizing range—is driven by G-E motors with over-all speed controlled from central operating stations.

G-E Range Drive

that lowers your installed cost —gives greater layout flexibility!

Range Drives FOR TEXTILE MILLS

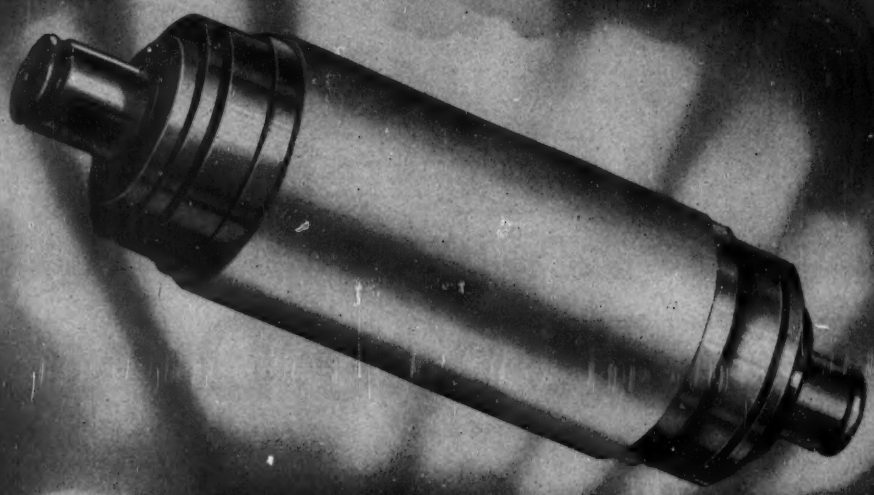
See "Textiles Unlimited," G-E's full-color sound movie on how textile mills are modernizing. Your G-E representative will gladly arrange a showing of this More Power to America presentation.

Here's a range drive that gives you all the advantages of the widely used adjustable-voltage d-c system of speed control—brought to you by General Electric in a mass-produced "package" of standardized parts. Now you get lower installed cost, simplified installation, and greater ease in making plant-layout changes in addition to these other important advantages:

- Any desired speed range and jogging speed.
- Easy control of over-all speed from a central location.
- Close co-ordination of speed of all motors by means of compensating gates or "soft" motors.
- Flexibility of operation because it permits individual units to be disconnected from the range.
- Dynamic braking for quick stopping, and regenerative braking for controlled deceleration, available if required.
- Maximum reliability and minimum maintenance with a simple, sturdy G-E motor at each drive unit.

If you're planning to install a complete new range, ask your machinery manufacturer about this G-E packaged multi-motor drive. If you're extending or modernizing an existing range, call in your local G-E textile-mill specialist on your drive problems. *Apparatus Dept., General Electric Co., Schenectady 5, N. Y.*

PERKINS



Perkins Calender Rolls—the natural result of the longest and broadest experience in the industry give a quality that is definitely reflected in your product. Perkins service includes refills of any make of calender rolls.

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ENGINEERS AND MANUFACTURERS

HOLYOKE, MASS.

LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

Rapidogens® for printing

fast colors on cotton, rayon and linen

brilliant colors outstanding for clarity and depth.

extensive color range many important shades are exclusively GDC.

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economy combine quality with ease of application.

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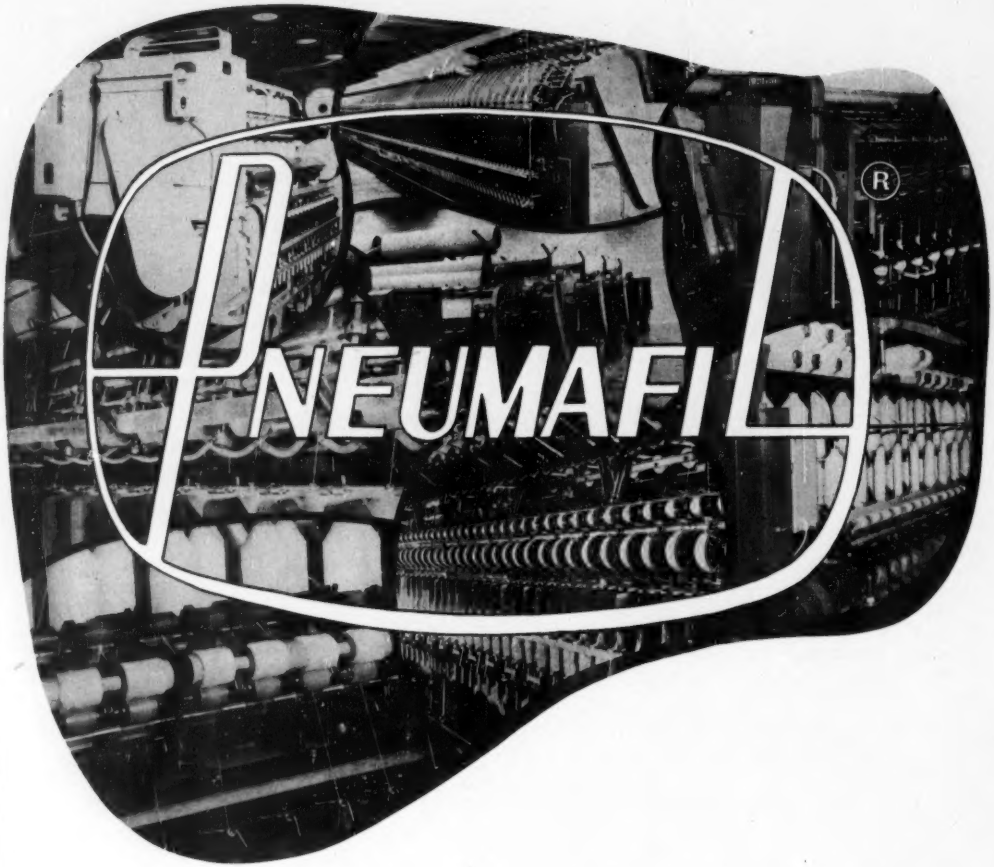

Cotton **Jute**
Wool **Asbestos**
Worsted **Tow**
Rayon **Blends**

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Pneumafil is being installed on them all—an essential for spinning more and better yarn for less.

Over 6,000,000 spindles are now Pneumafil equipped and new installations are being made at an accelerated rate. Pneumafil is setting new standards in efficiency and new highs in production by eliminating spinning doublings, reducing slubs and gouts, reducing ends down, reducing labor costs, greatly improving waste salvage, and increasing frame speeds and winder and weaving efficiency.

Let us show you why Pneumafil is the best investment you can make.

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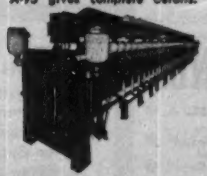
20% Of Your Machinery Investment...

HOW YOU CAN PROTECT IT

FLEXIBILITY FEATURES

1. High speed winding of any type or count of staple yarn. Changeovers from cotton — to wool or worsted — to synthetics — quickly and easily made.
2. Produces any cone taper commonly used — any angle of wind from 9° to 18°.
3. Can be equipped to wind knitting cones, warping cones, parallel tubes, dye packages or short traverse cheeses. Winds cones on one side, tubes on the other, if desired.
4. Winds dyed yarn even when damp; also conditioned yarn.
5. Can be built to wind up to 7" traverse.

Foster FLEXIBILITY protects a major part of your capital investment in machinery. Bulletin A-95 gives complete details.



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Westfield, Mass., U.S.A.

Southern Office: Johnston Bldg., Charlotte, N. C. • Canadian Representative: Ross Whitehead & Company Limited, University Tower Building, 660 Ste. Catherine Street West, Montreal • European Representative: Muschamp Taylor Limited, Manchester, England.

Here's What It Represents...

20% of your total machinery investment represents the money laid out for winding machines of all types.

While this is an average figure, subject to variation among individual mills, it still represents a *major* share of your investment in equipment.

And That's Why...

You can't afford to let your winders become prematurely obsolete! Today more and more mills are turning from one-fibre specialization. Fibre-integration within the mill is on the upswing. Unless your winders can keep pace with the trend, they are bound to be obsolete before their time. Then what of your 20%?

But You Can Protect Your Investment...

With proven FLEXIBILITY of Foster Model 102 Winders you can be ready and able to meet today's—and tomorrow's—changing fibre requirements. Even a short study of its FLEXIBILITY features should convince you that the Foster Model 102 is your ideal protection for your winding investment.

FOSTER F MODEL 102

THE FLEXIBLE WINDER FOR ALL TYPES OF STAPLE YARNS

Read what Mr. Seals has to say about his

CLIMAX
BALL BEARING TOP ROLLS

CARLTON YARN MILLS, INC.
FINE COMBED YARNS
CHERRYVILLE, N.C.

October 25, 1950

Machinecraft, Inc.
21 Vernon Street
Whitman, Massachusetts

Attention: Mr. Louis M. Cotchett, President

Dear Mr. Cotchett:

Subject: Climax Ball Bearing Top Rolls

Just three years ago we bought our first installation of Climax ball bearing top rolls from Watson & Desmond for our roving frames. Since that time we have continued to equip our roving frames with Climax top rolls.

Our use of Climax rolls produces better roving which is reflected in more even and stronger yarn. Costs in our card room have been also lowered because of the reduction in cleaning and picking that is possible by the use of Climax rolls, and because these rolls completely eliminate the nuisance and labor of top roll oiling. Our cots also last longer due to the Climax roll turning evenly and freely on the fluted roll.

We are well pleased with the performance of Climax top rolls and figure that they have more than paid for themselves.

With kind regards, I remain

Very truly yours,
CARLTON YARN MILLS, INC.
M. E. Seals
M. E. Seals
Superintendent

MES/ph

FOR ROVING
FOR SPINNING

They pay a quick, handsome profit through

BETTER YARN AT LESS COST

Climax Ball Bearing Top Rolls adopted by

Whitin

MACHINE WORKS

and supplied on Whitin machinery as standard where anti-friction rolls are required. Climax Rolls are available through Whitin Machine Works and all of their agents.

MACHINECRAFT, INC.

21 VERNON STREET, WHITMAN, MASS.

Northern Sales:
Richard K. Butler
P. O. Box 428
Whitman, Mass.

Southern Sales:
Watson & Desmond
P. O. Box 1954
Charlotte, N. C.

Argentine and Uruguay:
Roberto Zander, Representante-Importador
345 – Juan Jaures – 353 (Suc. 13)
Buenoes Aires, Argentina

Brazil:
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Caixa Postal 5904
Sao Paulo, Brazil

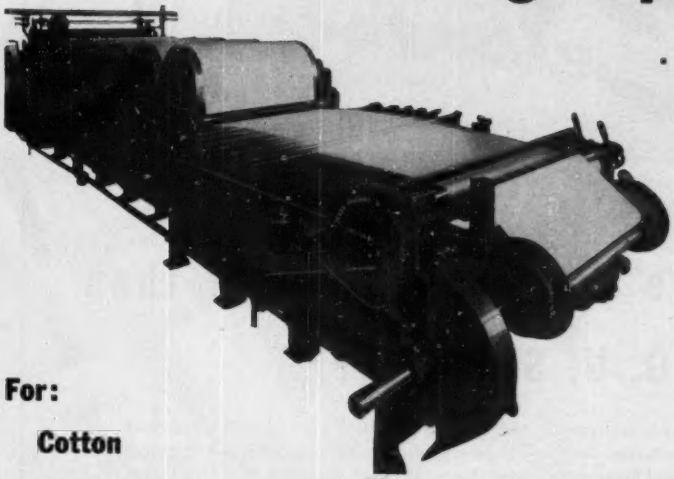
Mexico:
Slobotzky, S. A.
Avenida, Uruguay 55
Mexico, D. F.

Climax Ball Bearing Top Rolls are made for

- Cotton System Spinning Rolls for all standard and long-draft systems
- Cotton System Roving Rolls
- American System Worsted Rolls
- French and Bradford Worsted Rolls
- Wool Spinning Rolls

Climax Rolls are custom-made to suit your equipment and your weighting requirements.

the Cocker 9-Cylinder High Speed Slasher



. . . with the new Cocker Friction for making hard beams and giving more yards per loom beam

For:

Cotton
Spuns
Filaments
and other yarns

- Large all Stainless Steel Steam Jacketed Size Box.
- All Stainless Steel Cylinders with Rotary Packless Joints (Cylinders 30" diameter).
- Graduated Drive permitting of going from High Speed to crawl speed without overrun of beams and from crawl speed to high speed without strain or jerk on the yarn.
- Patented Automatic Friction Control permitting operations at high speeds without heating of friction.
- Finger tip control of tension on yarn.
- Push Button Control.
- Syphon Condensate Removal with individual trap on each cylinder.
- All moving parts fully ball bearing.
- Heavy machined cast iron frame eliminating vibration at high speed.
- Instant speed changes to 90 yards per minute.
- Counter clocks measuring yarn as it enters Size Box and as it is taken up on loom beam permitting instant calculating of stretch.
- Complete with Cut Marker, Cut Marker Indicator, Speed Tachometer, Combs and Comb Adjustments, Motor and Steam Fittings.
- A complete Machine for making quality warps efficiently and economically.
- Mirror finish on cylinders if desired.
- New high pressure cylinders.

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COCKER
AROUND THE WORLD

Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

There's more to this trademark than "REG. U. S. PAT. OFF."

Brand names exist and are protected by the U. S. Patent Office. They identify a standard of quality—to manufacturers, to retail buyers, and to consumers. But the Celanese brand in textile yarns and fibers means more than a standard of quality. For ACETATE rayon, in which Celanese pioneered, has unique and different basic characteristics . . . so valuable to Fabric Mills—Manufacturers—Retailers and Consumers alike that we review them here for the record.

Acetate Rayon...*the Beauty Fiber*

- has touch comfort in every season—always feels good next to the skin.
- has a luxurious hand, is softer, less wiry, than other chemical yarns. It drapes better.
- takes naturally to washing, it dries much faster than other rayons or natural fibers.
- is spun white without bleaching—will not yellow or gray with use.
- takes different dyes than natural fibers or other rayons, providing an unequalled richness of color.
- is thermoplastic. This means that fabrics of acetate yarn can take pleating and moire markings that survive laundering or wet cleaning.
- resists hard wrinkles without the use of resin finishes.
- has an exceptionally low rate of shrinkage—unlike other rayons or natural fibers, stable construction may be obtained without special finishes.
- is a chemical compound not found in nature—and it is highly resistant to damage by mold or mildew. Moths will not attack it.

Acetate rayon is the important chemical textile fiber. It was developed and pioneered by Celanese Corporation of America. The Celanese Brand, used alone or in combination with other famous names, has a powerful Point-of-Sale value. Put it to work for you.

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ALSIMAG® 192

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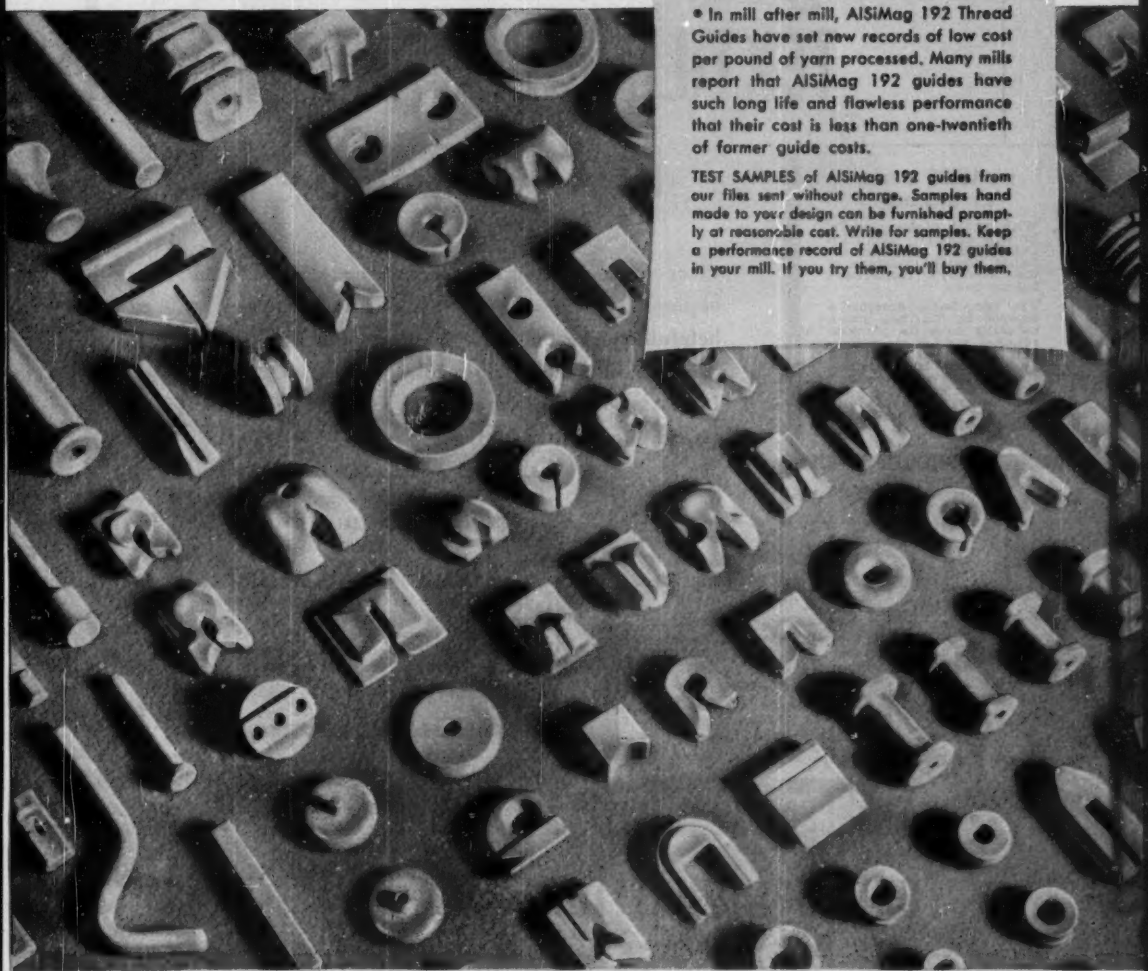
CUSTOM MADE Thread Guides

• In mill after mill, AlSiMag 192 Thread Guides have set new records of low cost per pound of yarn processed. Many mills report that AlSiMag 192 guides have such long life and flawless performance that their cost is less than one-twentieth of former guide costs.

TEST SAMPLES of AlSiMag 192 guides from our files sent without charge. Samples hand made to your design can be furnished promptly at reasonable cost. Write for samples. Keep a performance record of AlSiMag 192 guides in your mill. If you try them, you'll buy them.



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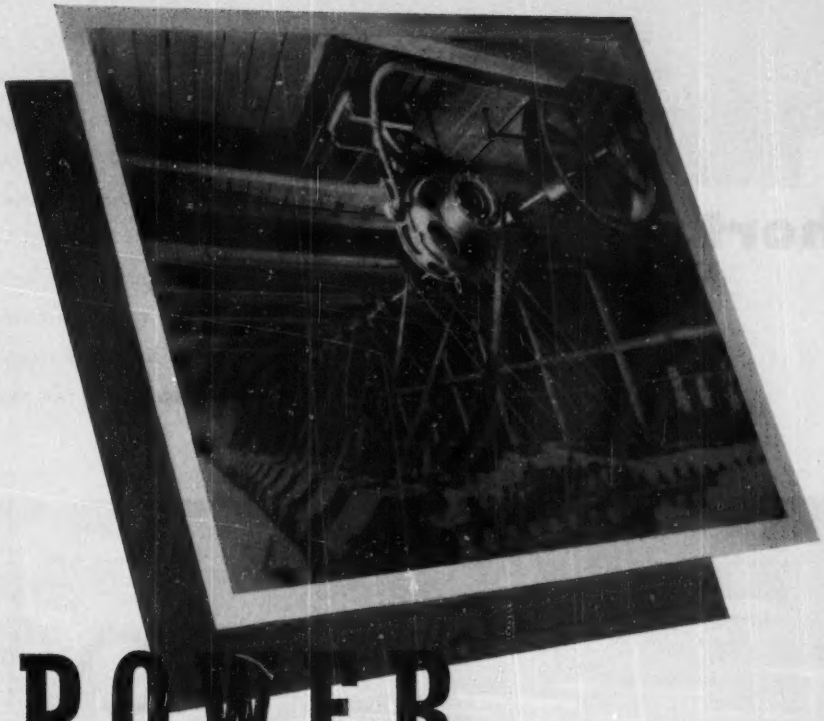

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The outstanding performance record of "Southern" belting is directly attributable to modern manufacturing methods developed by our engineering and research staffs. These are the ever-inquiring minds that have eliminated stretch and separation of laps and plies and insured peak performance of "Southern" belting.

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STANDARD OIL COMPANY (KENTUCKY)

masterpieces of knitting with **TORRINGTON needles**

The quality of the needles you use is *visible* in the quality of the knitting you do. Be sure of outstanding quality with Torrington Needles. There's a Torrington Needle for every type of knitting.

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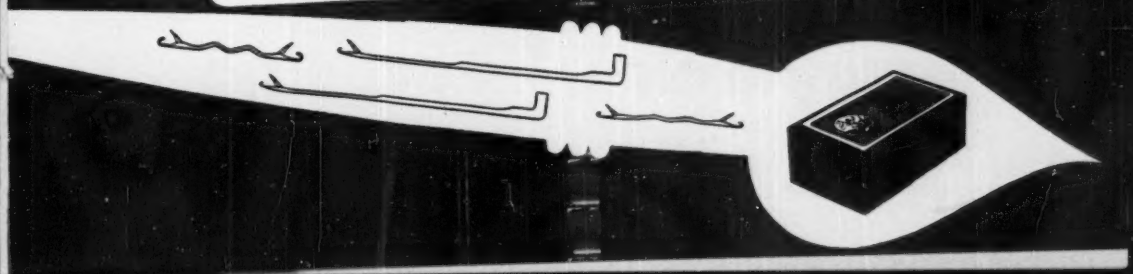
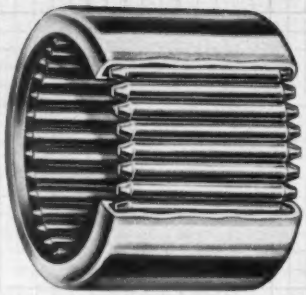


TORRINGTON NEEDLE BEARINGS

stand up in rugged service



A full complement of small diameter rollers spread radial loads evenly over a large area, roll easily under the shock. This feature gives Torrington Needle Bearings a higher capacity in proportion to their size than any other anti-friction bearing, and assures long, satisfactory service life in the toughest applications.

Let our engineers help you build greater staying power into your products with Torrington Needle Bearings.

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TORRINGTON NEEDLE BEARINGS

NEEDLE • SPHERICAL ROLLER • TAPERED ROLLER • STRAIGHT ROLLER • BALL • NEEDLE ROLLERS

Coming soon!

CROUSE-HINDS

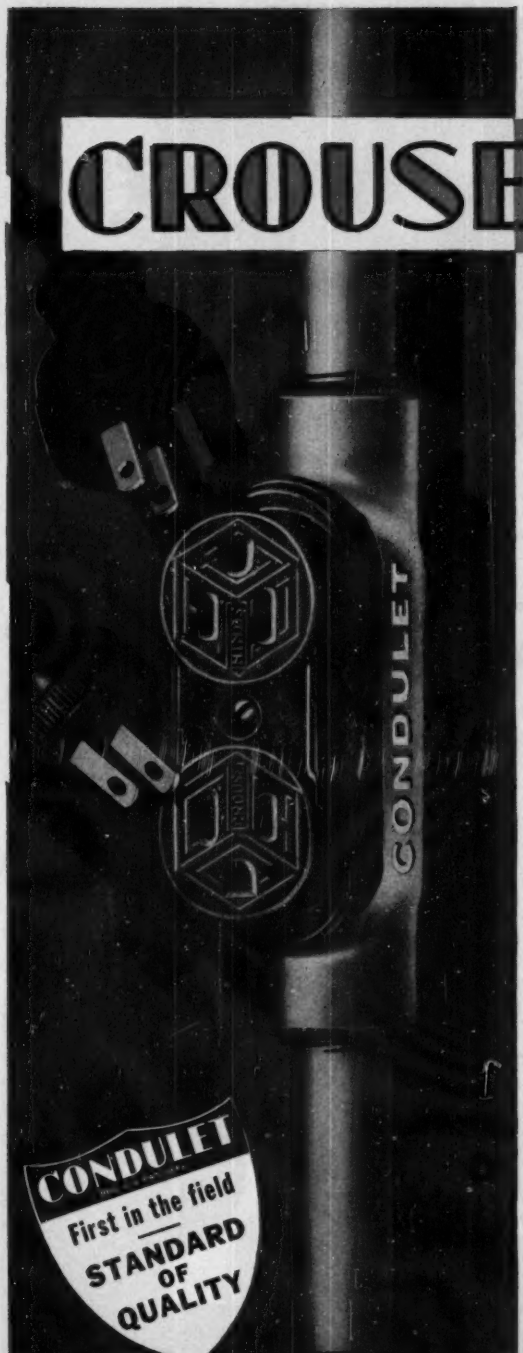
SAFETY

2-Wire, 3-Pole

Grounding Plug Receptacle

for

OBROUND CONDULETS



It gives you a positive ground circuit and will not accept ungrounded 3-pole attachment plugs

1. A duplex receptacle designed in accordance with the new standards established by NEMA and approved by ASA.
2. Has two parallel blade current carrying contacts and one "U" – shaped grounding contact.
3. The receptacle takes the new plug caps with two parallel blades and one "U" – shaped contact. It also takes the standard two blade parallel non-polarized and two blade parallel polarized plug caps.

This safety grounding plug receptacle for Obround CONDULETS is one of the thousands of items in the complete CONDULET line. Use sturdy cast Feraloy CONDULETS and rigid conduit on every installation.

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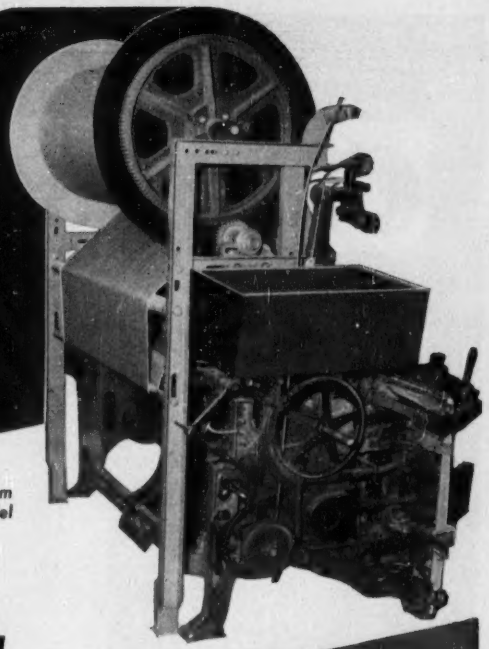
When Beams go UP... COSTS COME DOWN



32" Top Beam on an E Model Loom

BIGGER BEAMS... BETTER PRODUCTION

Increased beam capacity improves loom efficiency and cuts costs by greatly reducing run-outs and time consuming stops for warp tying and handling.

With the WPF&M overhead beam installation any standard loom can accommodate beams up to 36". Warp is raised above floor-level dirt and grease, out of the way of traffic and maintenance work.

Whether mounted overhead or behind the loom in the regular position, you'll find larger beams will pay for the change over with increased efficiency and better production.

Let us show you how bigger beams can be adapted to your present loom and slasher equipment.

Here's the Story in a Booklet

"BIG BEAMS... BETTER PRODUCTION"

Contains details and illustrations on top beam installations, handy multiplier table for figuring increased capacity of larger beams and other helpful information regarding bigger beams.

MAY WE SEND YOU A COPY?

32" Loom Beams Installed Behind the Looms in Regular Position

WPF&M

Manufactured by

WEST POINT FOUNDRY & MACHINE CO.

WEST POINT, GEORGIA

Photo courtesy Celanese Corporation of America. Yarn content: Warp — Celanese acetate rayon dull filament; Filling — Celanese acetate rayon bright staple.

A DURABLE GAS-FADING INHIBITOR

ARIPERM P M

Gives fabrics composed partially or wholly of

Acetate Rayon

— lasting protection against fading from atmospheric gases

— with excellent resistance to *WASHING AND DRY CLEANING*

Recommended for dyeing Light Shades, Pastels & Tints as well as medium and heavy shades.

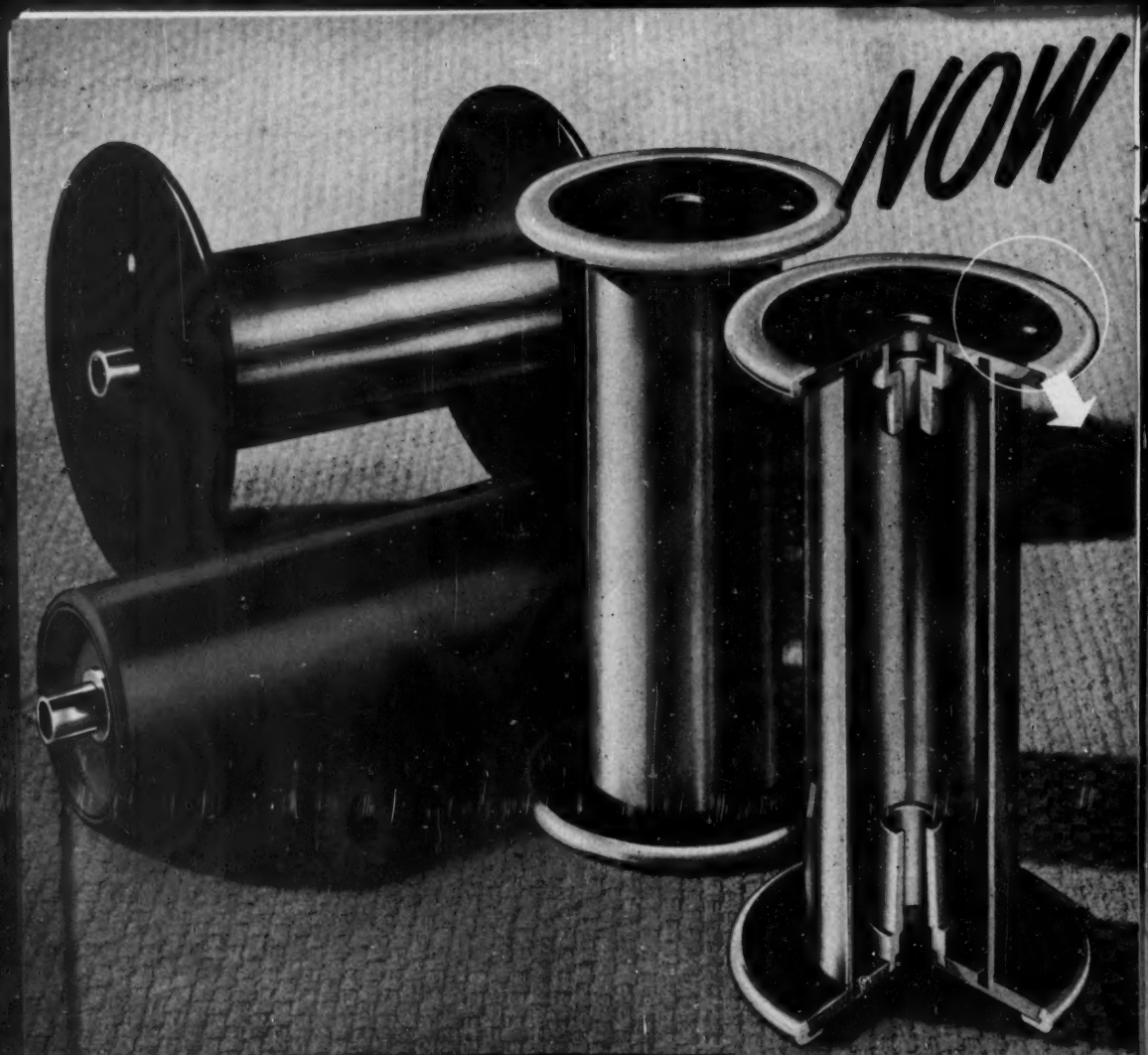
With Ariperm P M there is no appreciable yellowing effect on white goods when exposed in the gas chamber — relatively little effect on light fastness of the color.

Simple application in scouring or directly in the dye bath.

Write for Technical Service Bulletin #201-121.1

Arkansas Co. INC.

NEWARK, NEW JERSEY



High Strength Aluminum Alloy, Nylon-Armored, in a Twister Bobbin that meets every test

CONTROLLED BALANCE AND CONCENTRICITY Made to rigid specifications, with precision dies, ACROPAK Bobbins offer uniform balance and concentricity well beyond previously accepted standards.

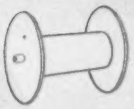
EXCEPTIONAL STRENGTH Aluminum alloy barrel and flange are joined by high-strength metal ring lock. Resulting assembly withstands most severe crushing strains and end thrusts of nylon yarn without distortion. Precision fit prevents yarn entrapment.

LIGHT WEIGHT Lighter than conventional spools and bobbins, ACROPAKS will permit faster handling with less operative fatigue. Also, twisting speeds can be higher with reduced spindle wear.

NYLON ARMORED Tough, resilient nylon rims reduce possibility of nicks and snags, resist wear of yarn drag, and may be replaced at little cost. Nylon bearings absorb shocks, retain accurate, uniform spindle fit and assure minimum of traverse setting.

COLOR-IDENTIFIED Flanges of ACROPAKS can be anodized in a variety of colors to permit identification of type of yarn carried.

LONGER LASTING, LOWER COST Since the service life of ACROPAKS is far greater than that of wood and fiber construction bobbins, the cost-per-year is much less. You save on bobbin inventory while you gain on improved production and waste elimination.



ACROPAK TAKE-UP BOBBIN

Aluminum alloy flanges and barrel are joined by high-strength metal ring lock. Resulting assembly withstands most severe crushing strains and end thrusts of nylon yarn without distortion. Precision fit prevents yarn entrapment.

Gudgeon is stainless steel. Precision manufacture assures uniform concentricity and balance which exceeds accepted standards.

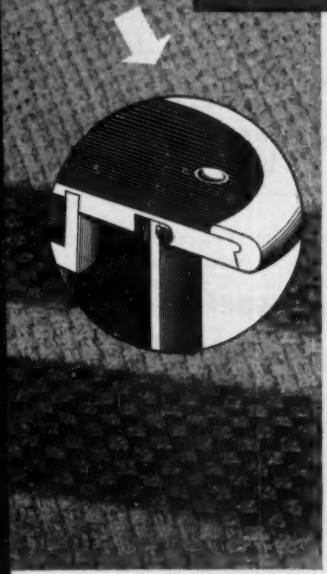
Reduced weight eases handling. Unaffected by high steaming temperatures. Anodizing, in variety of colors, prevents yarn stain, permits yarn identification.

Ready... the US answer to bobbin-killing synthetics

ACROPAK

VERTICAL SPINNERS, TAKE-UP AND HEADLESS BOBBINS

Patents applied for



You saw these completely new and different ACROPAK Bobbins at the Textile Show, and the oft-repeated question was . . . "when can I get them?"

Now, rigorous pretesting of every design feature under the toughest processing condition has been completed. Production of the proved designs is in full swing. Your orders can be placed now, and soon these money-saving ACROPAK Bobbins can be at work on your frames, ending the bobbin casualties that have been common for years in processing nylon and other synthetics.

Remember that ACROPAK Bobbins are entirely *new*—not an old type bobbin brought up to date. New techniques and new materials provide lightness, strength, and durability unequalled by any comparable bobbins.

BOOST PRODUCTION — SAVE YARN — DEFY WEAR

You can run higher speeds because there is no "dead" weight to wear spindle bearings, and because basically balanced ACROPAK Bobbins start true—stay true. You eliminate slubs, breaks, and waste because yarn flow over the lastingly smooth, tough nylon rims of the ACROPAK vertical spinner is unimpeded. Since they are virtually indestructible in normal use, your bobbin cost-per-year will be lower than you ever believed possible.

ACROPAK Bobbins can be made to fit all standard spindle dimensions and drives. Your U S representative is prepared to show you samples and discuss your synthetic yarn processing problems. U S Bobbin & Shuttle Co., Lawrence, Mass.

ACROPAK HEADLESS BOBBIN

Strength and durability far beyond normal need assured by Acrometal fabricated tube of aluminum alloy and gudgeon of stainless steel.

Much lower initial cost than for mandrel-cylinder assembly. One operation instead of five in take-apart means up to 75 per cent time saving. Absolute concentricity and balance assured by unique construction.

Can be anodized in various colors for yarn identification and to prevent yarn stains.

ACROPAK

Made by Acrometal Products, Inc., World's Leading Manufacturers of Drawn Aluminum Bobbins and Spools

A DIVISION OF

U S BOBBIN & SHUTTLE CO.

LAWRENCE, MASS. PROVIDENCE, R. I. PHILADELPHIA, PA. JOHNSON CITY, TENN. GREENVILLE, S. C. CHARLOTTE, N. C.
REPRESENTATIVES — CHICAGO: Albert D. Brock, 80 E. Jackson Blvd., ALABAMA: Young & Van Supply Co., Birmingham
CANADA: W. L. Westaway, Montreal, Que., Hamilton, Ont.

Metallurgy

Craftsmanship

Tolerance Control

8 REASONS WHY SKF IS PREFERRED BY ALL INDUSTRY

Integrity

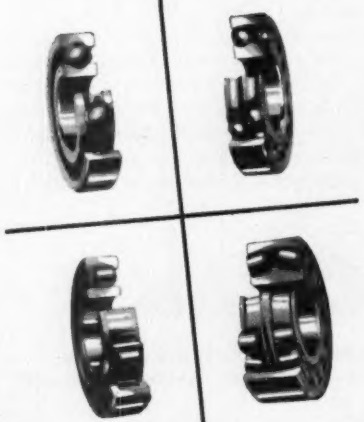
Product Uniformity

Field Service

Engineering Service

Surface Finish

make preference for a reason your guide when you specify ball and roller bearings



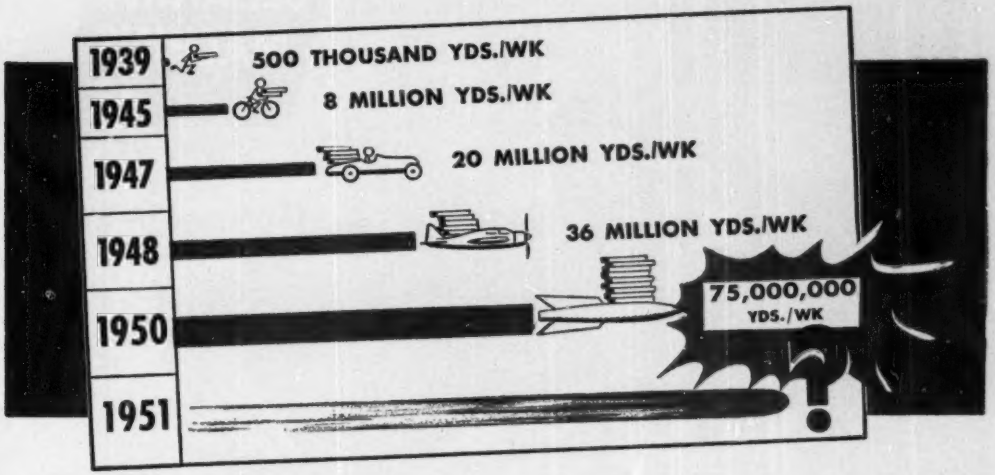
Over the years, products acquire a value above and beyond their mechanical qualities—a value proved by their *acceptance* throughout industry. This is especially true of SKF ball and roller bearings, preferred by all industry for one or more of eight good reasons. So when you specify, let preference be your guide. 7200

SKF
BALL AND ROLLER BEARINGS

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.
—manufacturers of SKF *and* HESS-BRIGHT *bearings.*

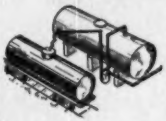
NOW 75,000,000 yds. per week

BLEACHED IN DU PONT CONTINUOUS PEROXIDE SYSTEMS



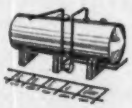
Sufficient capacity to bleach more than ½ of the annual production of cotton piece goods in the United States! That's the potential of Du Pont Continuous Bleaching Systems now in operation or under construction. And latest total production figures indicate an output of seventy-five million yards per week from present installations . . . a meteoric increase over the figure established in 1939, when Du Pont's first units were put into commercial operation.

FOR GREATEST ECONOMY CONSIDER



Tank Car Deliveries

If you need 5000 lbs. or more of "Albone" 35 or "Albone" 50 Hydrogen Peroxide per month, you'll find a storage tank installation economical. For smaller consumers in Metropolitan New York, Boston, Philadelphia, tank truck deliveries can be made.



Tank Storage at the mill

Since 1939, continuous bleaching has become well-established throughout the world as the modern way to speedy, economical, high-quality bleaching. Today, systems of all types are available to meet the specific requirements of any textile mill, large or small.

Why not investigate the advantages of Continuous Bleaching for your mill? Du Pont will be pleased to work with you . . . study your requirements . . . help you select proper equipment and assist in many other ways. Send for our new book that illustrates typical installations and gives other important information. Write to E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington 98, Delaware.

DU PONT
CONTINUOUS PEROXIDE BLEACHING

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

E. I. du Pont de Nemours & Co. (Inc.)
Electrochemicals Department, Wilmington 98, Del.

Please send me more information about Du Pont Continuous Peroxide Bleaching Systems.

Name_____ Title_____

Firm_____

Street & No._____

City_____ State_____

STRAIGHT DOWN THE LINE

THE NEW TYPE L BOBBIN CLEANING MACHINE IS

CUTTING COST

CUTTING COST

CUTTING COST

In mills of all sizes, with all kinds of quill cleaning problems, the New Type L has proved its economic value in higher production and lower costs.

Users are highly pleased with its total production, speed 4000 to 6600 quills per hour . . . with its ability to handle a wide variety of quill designs and sizes and to accommodate a wide range of yarns including continuous filament, wool and worsted, and many counts of spun rayon and cotton.

Waste is removed by jets of air and brushes. Neither quills nor quill finish can possibly be damaged, greatly reducing quill replacement costs.

Terrell engineers will welcome an opportunity to discuss your cleaning and handling problems. Their long and varied experience makes them experts in analyzing the job and then showing you exactly "how much" you can cut your present costs with Terrell's modern bobbin cleaning and handling equipment.

THE TERRELL MACHINE COMPANY, INC.

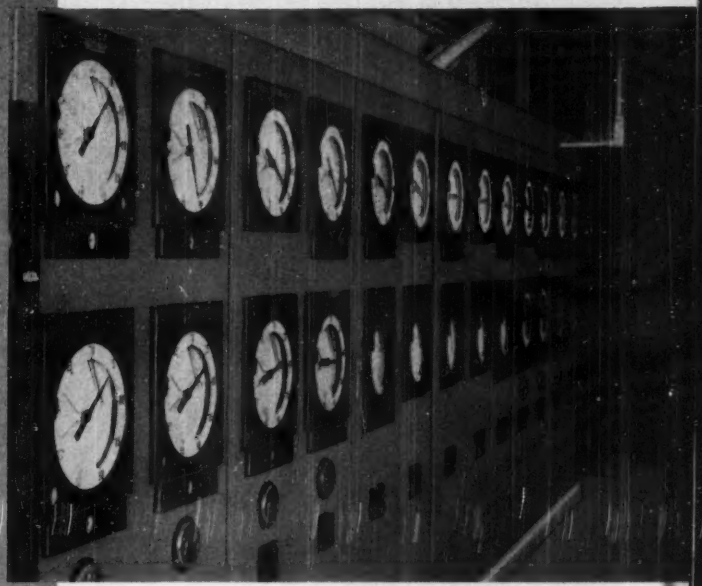
CHARLOTTE, NORTH CAROLINA

RELATIVE HUMIDITY MEASUREMENT Revolutionized with the *ElectroniK* HYGROMETER

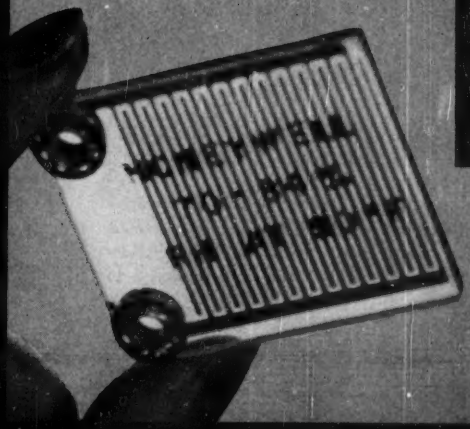
Readings are Direct

Response is Faster

Control is Centralized



▲ *ElectroniK* hygrometers on central control panel at Woodside Cotton Mills, Easley, S.C.



◀ New Honeywell electronic humidity sensing element.

HERE IS NEWS! A super-sensitive measuring element with a 10-second speed of response and an instrument that indicates and records relative humidity directly . . . without interpolation from psychometric charts . . . without psychometric accessories such as water supplies, wicks and porous tubes . . . without vulnerable capillary tubing and its distance limitations.

Here are the salient features which make possible closer humidity control in your mill or office, to increase efficiency of machines and personnel: *1. ±1% accuracy. 2. Effective operating range between 35 and 93% RH or increments of 20% RH minimum span between these limits. 3. Full temperature compensation between 50° and 120° F.*

Your local Honeywell engineer is ready to give you more detailed information, in terms of your application. Call him in today . . . he is as near as your phone!

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, 4492 Wayne Ave., Philadelphia 44, Pa. Offices in more than 80 principal cities of the United States, Canada and throughout the world.

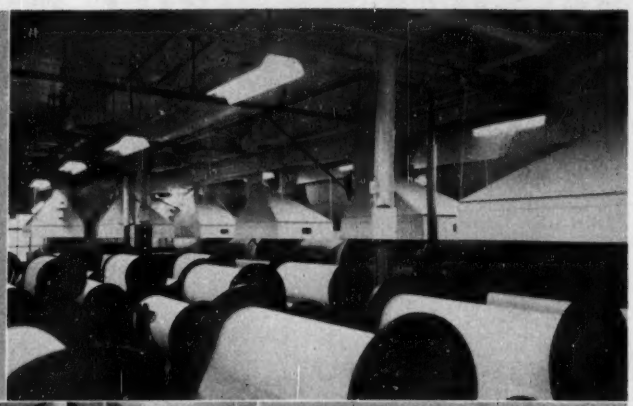
THE *ElectroniK* HYGROMETER IN YOUR MILL MEANS:

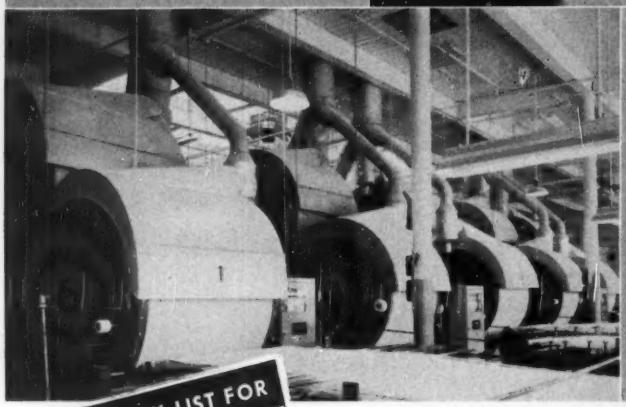
- **Closer humidity control than heretofore possible.**
- **Centralized control or monitoring panel for remote measurement over distances up to 1000 ft.**
- **Linear calibration for easier reading and more precise control.**
- **A system designed to meet the functional requirements of air conditioning engineers. Available with or without control.**

MINNEAPOLIS **Honeywell**

BROWN INSTRUMENTS

Not Just Installed-





But Custom-Tailored For The Job

SIMS CHECK LIST FOR REPLACEMENT PARTS

1. Pipe Coils — of every shape, in any metal or alloy
2. Dry Cans
3. **SLASHER HOODS**
4. Rolls — fluted or plain
5. Spinning Cylinders
6. Spinning Cylinder heads and arbors
7. Card Screens
8. Slasher Cylinders
9. Picker Screens
10. Size Boxes

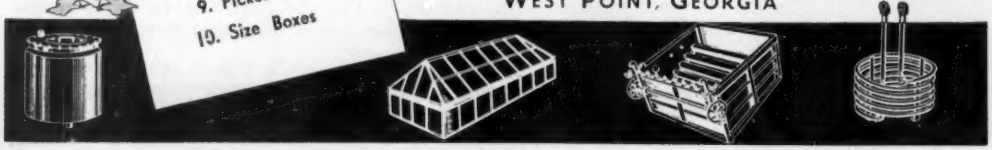
Moisture due to processing operations is inevitable—BUT its corrosive effect on equipment, on building interiors, on goods in process can be eliminated. Slasher hoods, so important in reducing this corrosion-producing vapor, can be installed—or they can be *engineered* to YOUR slasher room.

Sims "Custom-Tailoring" begins before fabrication, and right in your slasher room. Hoods must be built to fit individual situations. Pictured above are two such installations. Top—photograph depicts construction and installation necessary in a low-ceiling room, while the bottom illustrates an ideal situation for efficient slasher exhaust disposal.

Sims METAL WORKS

WEST POINT, GEORGIA

Get the Sims Check List habit—check your equipment against the replacement parts list at left.



SLASHING HINTS

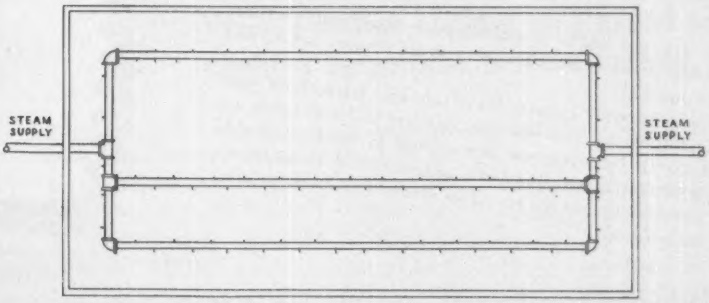
No. 16 OF A SERIES

SIZE BOX COILS

Careful design of size box coils can do much to give more uniform sizing, easier operation and greater freedom from size lumps.

Perforations should be drilled 1/16″ in diameter on alternate sides of the coil every 1½″, deflected down at an angle of 30° from the horizontal in order to sweep the bottom of the box and create a rolling, stirring motion. The coil should be at least 1½″ from the bottom of the box so that the deflected steam will not wear out the box.

To prevent formation of scum and hard size, no part of the box should be without thorough agitation. Steam should enter the box from *both* ends, otherwise there will be too much boiling and splashing at one end and insufficient agitation at the other end.



We will be glad to send any mill a free blue print of this coil design on request.

HEADQUARTERS FOR TEXTILE CHEMICALS

SEYCO Products

Warp Sizing
Softeners
Penetrants
Detergents
Scouring Agents
Sanforized Fabric Oils
Rewetting Agents
NIAGARA "Twist Setter" Machine
Yarn Conditioners
Ty-In Penetrants
Dye Assistants
Shuttle Dressing

Wet Processing Chemicals and Auxiliaries

Our technical service men, backed by our large modern laboratories, will gladly co-operate with you in getting best results from SEYCO Textile Chemicals.

SEYDEL-WOOLLEY & CO.
TEXTILE CHEMICALS
748 RICE STREET • ATLANTA, GA.
SEYCO
PENETRANTS • SIZING • SHUTTLE DRESSING • SOFTENERS • ALKALIS
• TWIST SETTER MACHINES •

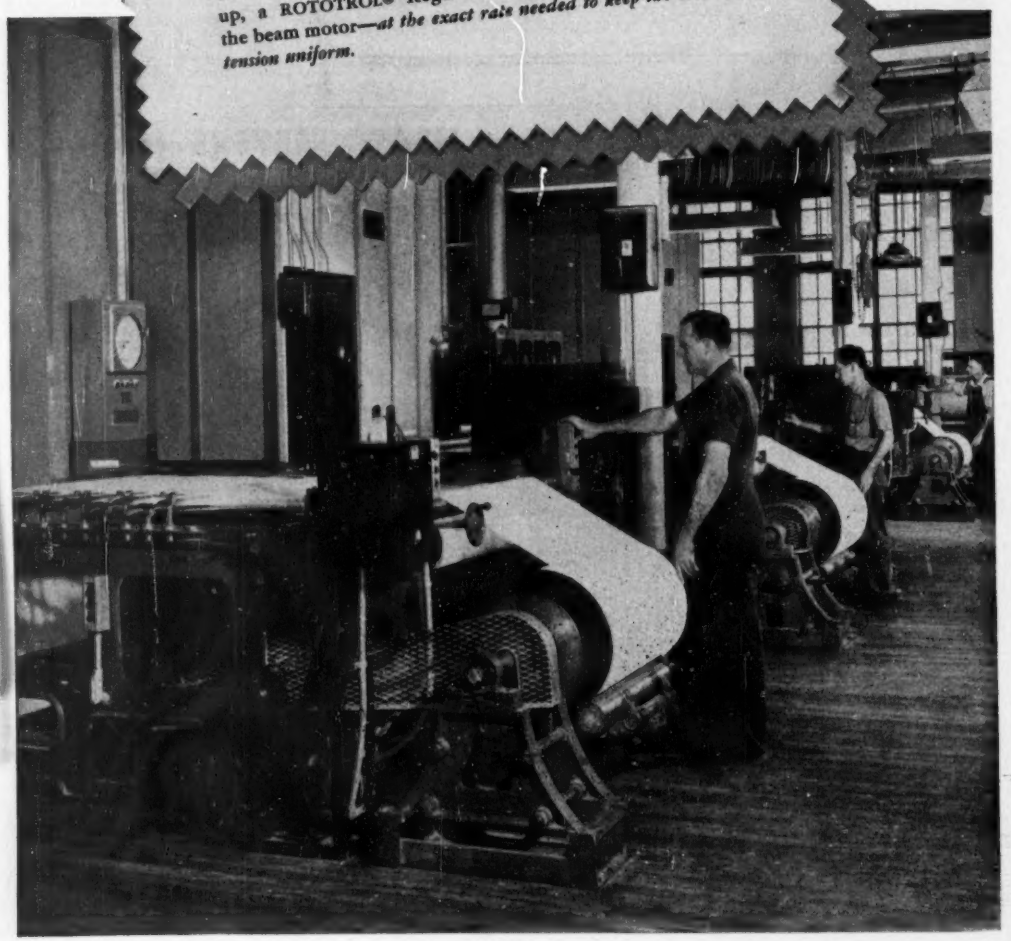
YOU CAN BE **SURE**.. IF IT'S

Westinghouse

How slasher speed was safely doubled

Here are the three Westinghouse-equipped slashers now doing the work of six—because slasher speed was safely doubled.

It was possible because Westinghouse drives hold yarn tension constant. The size box, delivery roll and beam are each driven by a separate motor. And as the beam builds up, a ROTOTROL® Regulator automatically slows down the beam motor—*at the exact rate needed to keep the winding tension uniform.*



New drive saves cost of running three slashers

Three slashers replace six; speed safely doubled by precise tension control

By switching to slashers with new Westinghouse Multi-Motor Drives and Uxbridge "Gentle Air" drying units, Borden Mills at Kingsport, Tennessee, now operate only three slashers where they formerly required six. And *production has been maintained.*

The three-for-six trade is possible because the new slashers run at 85 to 100 yards per minute, as compared with 40 to 45 yards per minute for the old units. These high speeds are safe because the Westinghouse drives hold yarn tension constant. Despite the speed doubling, slasher stoppages due to yarn breakage have been held the same or lower!

BEAMS MORE UNIFORM, TOO

The beams produced are now more uniform. The controlled tension makes the yarn hug the beam evenly—with no soft spots to snag yarn and cause breakage during weaving. These smooth-wound beams give straighter warp on the loom, permit better filling spacing.

MORE WARP PER BEAM

With tension uniform, these slashers wind more warp per beam. This means fewer beam changes—a saving in handling costs and fewer slasher and loom interruptions for starting new beams. Drawing-in costs are reduced in proportion to the decreased number of beams.

LESS SLASHER ROOM MAINTENANCE

The Westinghouse Slasher Drive has eliminated the friction clutch and all the headaches that go with it. Here's something to make the maintenance man happy: No bevel gears or line shafts. No overheating. Less friction and fewer passes with the grease gun. No alignment problems.

OVER 150 DRIVES IN USE

More than 150 Westinghouse Multi-Motor Slasher Drives are now in service. They can cut costs in *your* slasher room and give *you* better and faster weaving. Get the facts: Call your nearby Westinghouse office or write for Booklet B-4597. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania.

J-94842

Westinghouse

EQUIPMENT FOR THE TEXTILE INDUSTRY

More efficient weaving

from Taylor-Controlled Rayon or Cotton Slashers

TAYLOR-CONTROLLED SLASHERS built by the Cocker Machine and Foundry Company have earned a reputation for top performance throughout the textile industry. One example is this installation (below) at Laurens Mills, Laurens, S. C. Laurens reports:

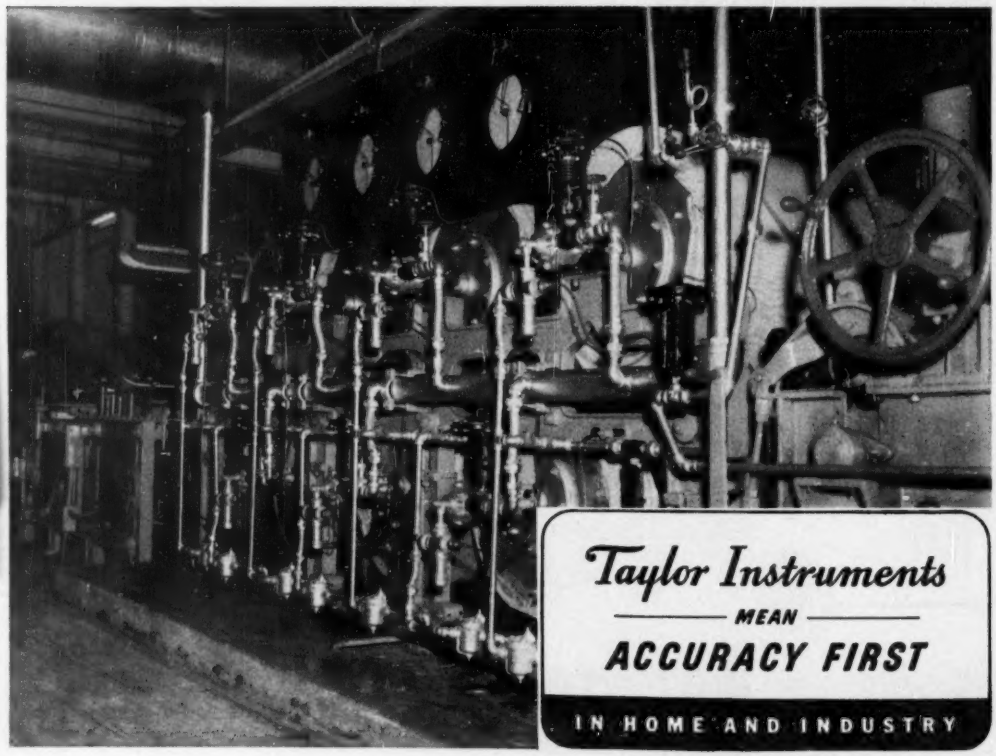
1. Control of condensate gives closest possible relationship with skin (face-of-slasher-cylinder) temperature.

2. Quick, automatic heat-up (at least 50% faster). No more time lost waiting for traps to empty.

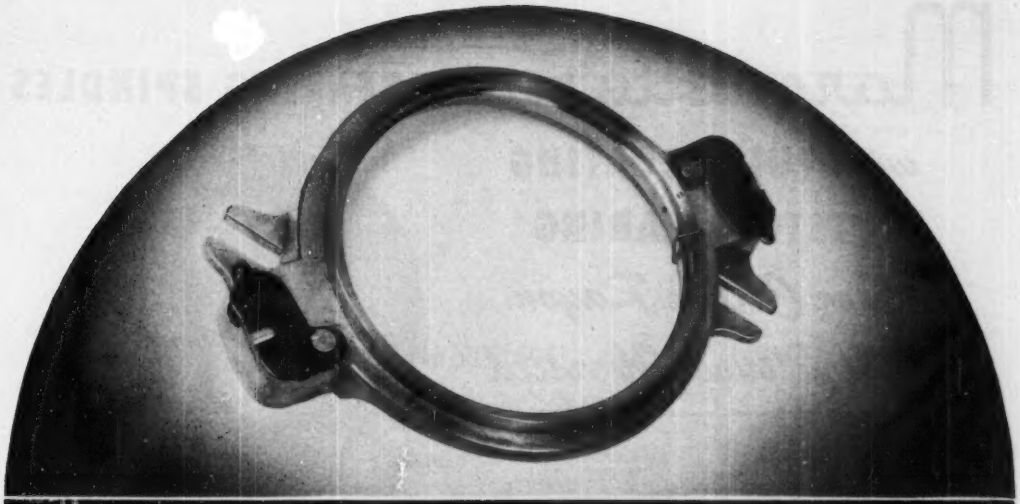
3. Taylor system of air injection gives accurate control *regardless of operating temperature.*

NOTE: Whether your high-speed slasher is 5, 7, 9 or 11-cylinder, rayon or cotton, Taylor can equip it with automatic individual or group control.

We're especially proud to say that textile equipment manufacturers are using Taylor Automatic Control on both high and low speed slashers. Naturally, we furnish automatic control for every slashing phase: *size cooking; storage kettles temperature control; size box level and temperature control,* and *slasher cylinder temperature and pressure control.* Ask your Taylor Field Engineer, or write Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada. *Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.*



Taylor Instruments
MEAN
ACCURACY FIRST
IN HOME AND INDUSTRY



Only HERR *makes the* "CONICAL RING"

and here is why it is in satisfactory use by the hundreds of thousands thruout the world

1. *Conical* shape produces an outward and downward action with the traveler riding on the top and side face of the ring.

2. Helps reduce yarn breakage and to increase production of higher quality yarn with reduced waste, because the bottom foot of the traveler is kept free to act as a compensating factor to the yarn.

3. Special oil feature provides for absolute control of the flow of oil to the traveler; results in cleaner fabric, minimum oil consumption, longer traveler life, NO rewicking.

4. Constructed of durable drop-forged steel.

5. Mounted in special die-cast holders to accommodate any spinning and twisting rail condition.

TIMELY SUGGESTION

If you have ring problems, let us arrange for one of our representatives to discuss *all* of the merits of the Herr *Conical* Ring.

Used for Quality Spinning and Twisting of Wool, Worsted, Nylon, Rayon and Blended Yarns of all types; also Cotton **Twisting.**

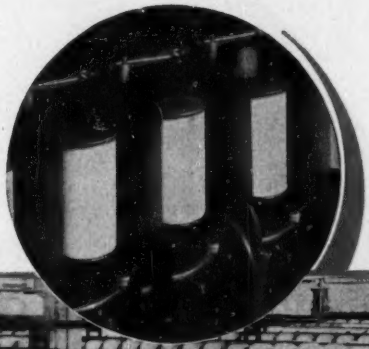
HERR MANUFACTURING CO., Inc.

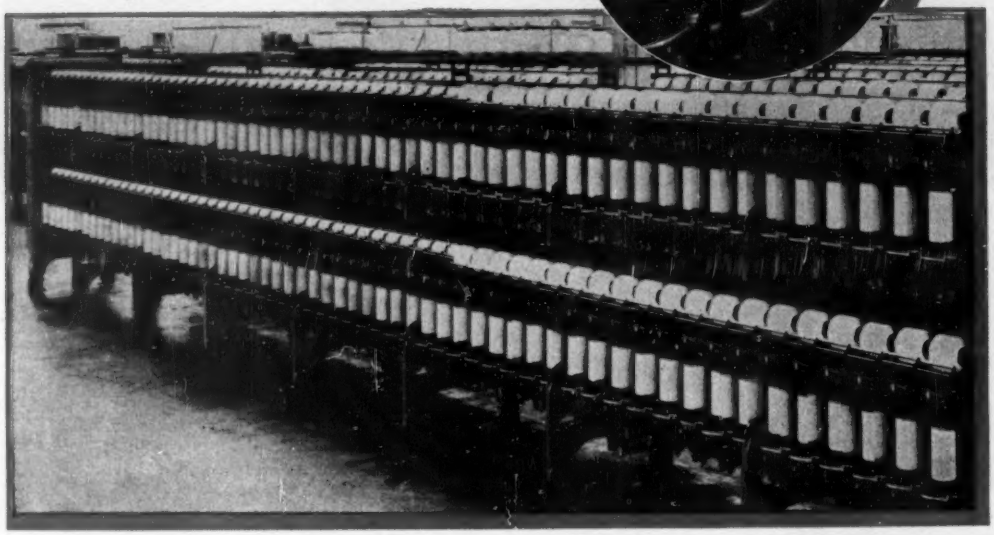
318 FRANKLIN STREET • BUFFALO, NEW YORK

Marquette ROLLER BEARING SPINDLES

with FULL-FLOATING FOOTSTEP BEARING

For Cotton, Rayon, Nylon, Wool, Worsted





In 1945 this nylon throwing mill put in a test frame of Marquette Roller Bearing Spindles. Since that time, they have purchased 38,000 for new frames and as replacements.

The mill's records show that Marquette Throwing Spindles have several distinct advantages. They produce yarn of highest quality. Large packages can be run at high speeds, with low power consumption and reduced maintenance costs.

We'll be glad to prove the advantages of operating Marquette Roller Bearing Spindles in your mill. For a test installation, contact our home office or one of our representatives.

PROTECTED BY U. S. AND FOREIGN PATENTS, AND PATENTS PENDING

The Marquette

METAL PRODUCTS COMPANY

CLEVELAND 10, OHIO

SUBSIDIARY OF CURTISS-WRIGHT CORPORATION

Representatives:

BYRD MILLER, WOODSIDE BLDG., GREENVILLE, S. C.

C. H. WHITE, 432 W. [illegible] ST., GREENSBORO, N. C.

WILLIAM P. RUSSELL, BOX 77C, ATLANTA, GEORGIA

JOHN J. MALONEY, 80 [illegible] AVE., LOWELL, MASS.

Also Manufacturers of: HYDRAULIC GOVERNORS • FUEL OIL PUMPS • FUEL OIL INJECTORS
WINDSHIELD WIPERS FOR AIRCRAFT, TRUCKS AND BUSSES • PRECISION PARTS AND ASSEMBLIES

Textile Industries
Vol. 115 • Jan. 1951

Tap a New Source of Manpower

WITH THE commitment of this country to large numbers of men in the armed services, textile mills already have felt the pinch of the draft law and the recall of reservists. At this writing the situation appears to be getting worse instead of better.

More and more trained textile operatives and key men will leave the industry for service with the Department of Defense. And should the conditions of World War II prevail, the textile industry may lose additional personnel to other industries engaged in defense work, though such migration of textile employees should not be as severe since the hourly earnings spread now is less severe.

Though the full gravity of the world situation has not been felt by the American public or by industry in general, the fact remains that our textile industry will be called upon to share its personnel with the armed services.

In view of this condition, the textile industry could well consider the employment of physically handicapped persons.

It will be good business.

Moral obligation need not influence the decision.

In discussing the performance of the physically handicapped with a mill president, he told of having employed two one-armed card grinders—they did excellent work; a one-armed roving man laid up more roving than his two-armed associates; deaf and dumb weavers were exceptional—he'd like more with their records. And so the story went. Men with club feet have run sections of looms; others with physical impairments have given top performance.

At the Glasgow, Va., mill of James Lees & Sons Company, one hundred fifteen physically handicapped persons have been employed, a hundred of whom are war veterans. Only recently the company received the citation of merit from the American Legion in recognition of its consideration of the physically handicapped in its Blueridge Division.

When placed on a job for which he is physically qualified, the physically handicapped employee can hold his own with other employees, and he is often above average in his performance.

HERE IS how the physically handicapped rate on absenteeism, labor turnover, and safety; the results were uncovered in a survey made by the Bureau of Labor Statistics of 88,600 employees with physical handicaps:

Attendance: 49% had better than average records; 44% had average records.

Labor Turnover: 58% of the handicapped employees stayed at their jobs longer than the unimpaired.

Safety: 51% of the handicapped had better safety records than the nonhandicapped; 38% had the same records.

While on the subject of safety—some employers have been informed that the employment of physically handicapped persons works an insurance hardship on the employer.

This is not true.

There is no provision in the workmen's compensation insurance policies or rates that penalizes employers for hiring handicapped people. Our authority for this statement is the Association of Casualty and Surety Companies.

When a physically handicapped person is employed, he is usually appreciative of the job and makes a loyal employee; but he is still human and being handicapped does not make him overlook unfair treatment—all he asks is fair play and equal opportunity.

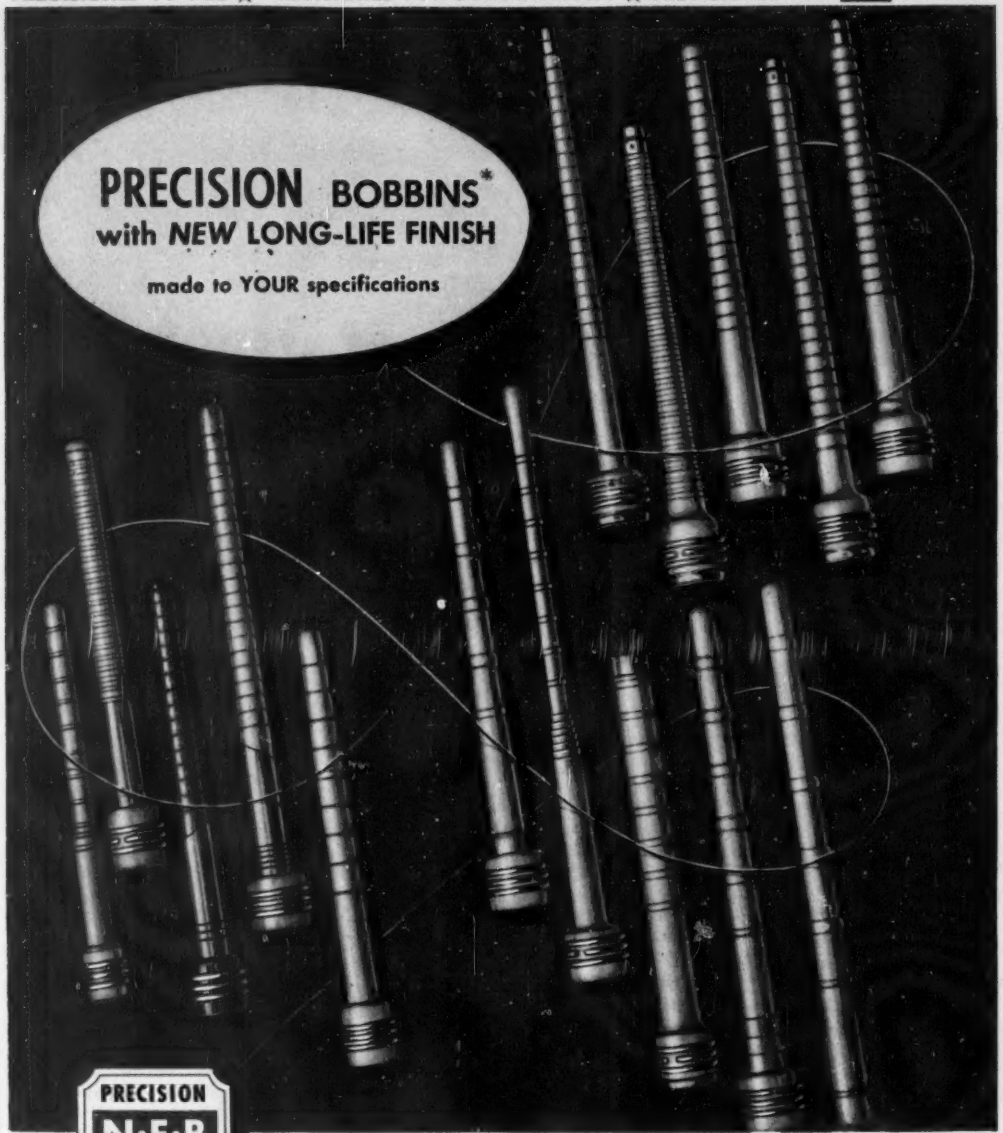
If your plant is short on help, or if your records show that you are likely to lose men to the armed forces, try tapping a new source of manpower — the physically handicapped. Not from sympathy, but with enlightened self-interest.

What a man has lost does not count. What he has left is important.

—J. C. F.

Mills interested in securing further information on hiring handicapped persons are advised to contact Division of Vocational Rehabilitation, a state agency usually located in the capital cities. The editors have been informed that some state agencies will investigate training needs with the end view of preparing handicapped persons for specialized work.

PRECISIONED TO SIZE ★ PRECISIONED FOR CONCENTRICITY ★ PRECISIONED FOR YOUR SPINDLES



For SILK and SYNTHETICS — COTTON and SPUN RAYON — WOOLENS and WORSTEDS

NEB's *New* LONG-LIFE Finish eliminates yarn abrasion and snagging; withstands heat up to 125° and chemicals in detergents. Rugged, for hard use, yet *smooth and gentle* for the finest filaments. Include NEB PRECISION ENGINEERED BOBBINS with NEW LONG-LIFE Finish in your next requisition — your next order — and *compare!*

NEW ENGLAND BOBBIN & SHUTTLE CO.

Makers of PRECISION *Automatic Loom Bobbins*

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News in Brief

Circus Comes to Town—Mill Closes. Firestone Textiles, Gastonia, N. C., locked the doors and all took off, 6,000 strong, to the circus. Occasion, 50th anniversary of the parent company. The company bought out the entire afternoon performance of Ringling Brothers and Barnum and Bailey's stand at Charlotte.

Wool Rustlers. Making a comeback in South Africa, wool rustlers sheared 80 merino sheep during one night; other rustlers sheared 150 sheep and tied a "thank-you" note on a ram's horn.

Tricot Electronic Let-Off Control. Van Raalte Company, Saratoga Springs, N. Y., has installed a newly developed GE electronic let-off control on a tricot machine. According to Van Raalte engineers, the new device enables the mill to produce a better grade of knitted goods.

QM Duck Specifications. An important change in QM specifications for certain types of duck is that bidders must submit proof that they have previously made a product which meets all the requirements of the specifications. All bidders are required to submit a certified copy of a laboratory report from an independent or commercial laboratory. The same requirement is expected to be applied to a number of other textile products.

Cellophane Shortage. A manufacturer of cellophane suggests that industrialists check handling and application practices when using cellophane, in view of the shortage of this product. Sylvania has prepared a leaflet on storing, handling, and application, which is available for the asking.

Synthetic Rubber. Once a wartime substitute, synthetic rubber is fast becoming the preferred raw material for the rubber industry, with its use promising to surpass natural rubber both in the immediate and long term future, according to Harry E. Humphreys, Jr., president of the U. S. Rubber Co. As such, the center of rubber production may shift from the plantations of the Far East to Texas.

Canada Permits Imports of Knit Fabrics. Special import permits for knitted fabrics will be issued by Canada if Canadian manufacturers require goods for cutting up or for further manufacture in their plants.

Cotton Knitted Fabrics Association. A new association is the Knitted Fabrics Institute. It will act as spokesman for the cotton knitted fabrics industry on a national level, engage in research for the improvement of manufacturing techniques, and foster improved relations with the cutting trades. Mac Thal of Alamac Knitting Mills, Indian Orchard, Mass., is president.

Untreated Waste into Streams. A study conducted by an interstate pollution control commission shows that one-third of the New England textile mills are discharging untreated industrial wastes into rivers and streams.

World Wool Production Rises. World wool production for 1950 has been estimated at approximately 4,000 million pounds, which is 140 million pounds above the 1949 output and approximately two per cent above the 1936-40 average. Estimate is on a grease basis and includes apparel and carpet wools.

Nylon Movie. A motion picture in color called "Close-Up of Nylon" explains why nylon can be

BLUMENTHAL HEADS TRI

Andre Blumenthal has been elected president of Textile Research Institute, Inc. The new president of TRI is vice-president of Sidney Blumenthal & Co., and succeeds A. G. Ashcroft of Alexander Smith & Sons Carpet Co. as titular head of TRI.

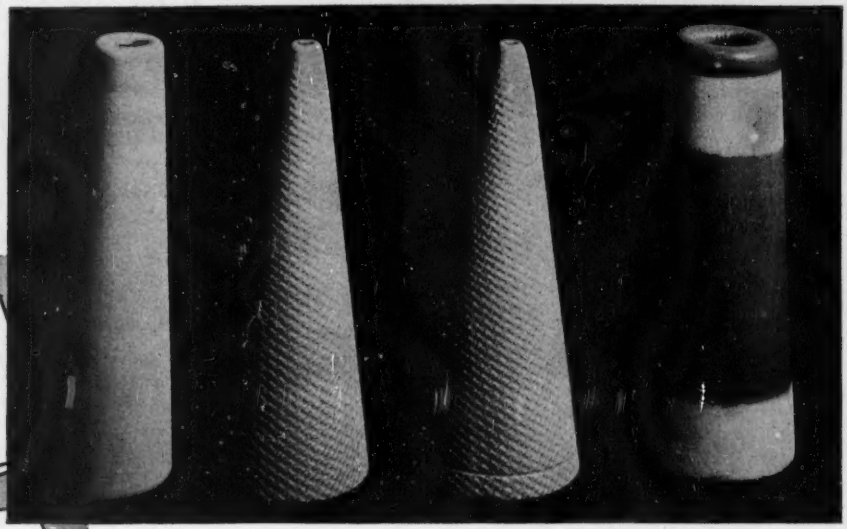
Other officers of the Institute are: vice-president, H. Gordon Smith, U. S. Rubber Co.; treasurer, Richard T. Kropf, Belding Heminway Co.; and secretary, Paul C. Alford, Jr.

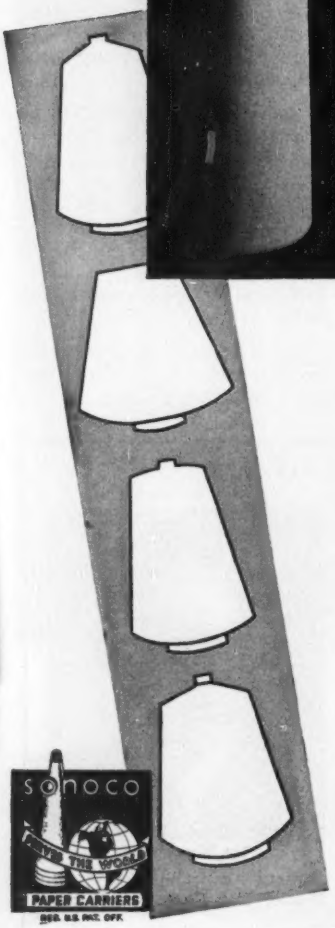
New directors are: Percy S. Howe, Jr., American Thread Co.; F. Everett Nutter, Goodall-Sanford Co.; and Charles S. Fowler, Dan River Mills, Inc.

Mr. Blumenthal

SERVING THE TEXTILE INDUSTRY SINCE 1899

A SONOCO Cone FOR EVERY WINDING JOB





Cottons, woolens, synthetics . . . whatever the winding or packaging requirements . . . SONOCO has, or can make, a cone for the job.

SONOCO'S standard cones fit all standard winding equipment . . . special cones are available in any taper, length or weight.

Our technical service department will be glad to consult with you on any of your cone winding problems.

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

both warm and cool, why some nylon pleats are permanent and others are not, etc. Also told is what nylon can contribute to combination fabrics, the effect of fabric construction on warmth and coolness, and the functions of heat-setting. The 22-minute film may be obtained for use without charge from DuPont's Nylon Division, Wilmington, Del.

Rieve on Taft-Hartley. It has been reported that Emil Rieve of the CIO Textile Workers Union would be willing to see some amendments made in the Taft-Hartley law, a change of attitude unless the proposed amendments are accompanied by efforts to sabotage the measure.

Committee Asks Business for Information. A special "watchdog" committee of the House Expenditures Committee has appealed to industrial leaders to provide the group with examples of waste and inefficiency in federal procurement with which they are familiar. Assurance has been given that no "witch-hunt" will develop. It is emphasized that industrialists are in the best position to supply data on which remedial measures could be taken.

Measurements on Infants' and Children's Garments. The Underwear Institute has available new and revised standard measurements on knit garments for infants, children, boys, and girls based on body measurements published by the government. These are a complete revision of all juvenile garments now contained in the Institute's standard size booklet.

Canada's Textile Employment Steady. According to the Dominion Bureau of Statistics, Canada's primary textile industry has provided more steady employment than any other industry in Canada, in good times and bad.

Trend to 51-Gauge Hosiery. With the comment from one hosiery producer that 60-gauge hosiery does not show enough of the female, several hosiery manufacturers say they will defer the installation of more 60-gauge machines until finer nylon yarns are perfected. 60-gauge was popular when first introduced, it was noted, but the trend is toward 51-gauge hosiery again.

Except in England. Except in England, nationalization of industry has lost its charm in Europe, according to Emerson P. Schmidt

News in Brief

of the Chamber of Commerce of the United States. He also reported that production in West Germany is one-fifth above that of pre-war conditions and that reconstruction is going apace.

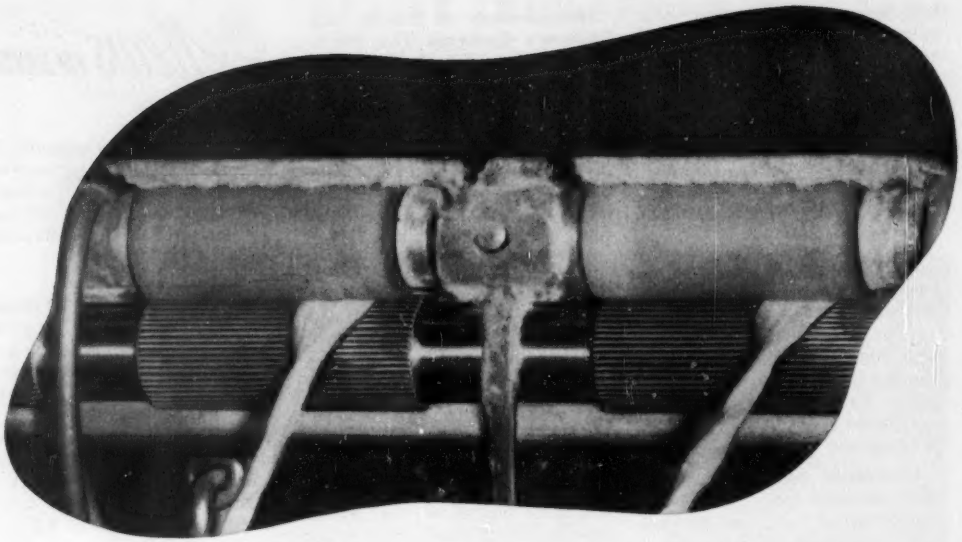
Allotments to Small Business. National Production Authority, Dept. of Commerce, is taking care of small business firms in its effort to conserve strategic materials. Order M-6 requires steel producers to allot to their warehouse customers proportionate percentages of each steel product, based on average monthly shipment during the first nine months of 1950.

Textile School-Industry Tie-Up. Closer coordination between educational research facilities and operating mills is in the offing, according to sentiments expressed by a delegation from Lowell Textile Institute attending the 67th annual meeting of the National Association of Woolen and Worsted Overseers. It is felt that many of the

TEXTILE MILLS TAKE SPACE AT FAIRS

Dan River Mills, Inc. took this space at the county fair to display to the people of Danville and Pittsylvania County a visual treatment of their annual stockholders report. Large display boards showed the way Dan River's dollars were spent during the first half of 1950. The exhibit was arranged and designed by Lew Fracher, director of public relations.

The mills in York County, S. C., displayed their products in a special exhibit sponsored by the Rock Hill Exchange Club. The exhibit was over 100 feet long; 14 mills were represented. It is planned to make the exhibit an annual feature of the York County Fair.



No eyebrowing with these cots

Eyebrowing stops when you equip a frame with Armstrong's Cork Cots. These covers pack the loose waste fibers well back under the clearer board. Eyebrows never have a chance to form.

A microscope shows you the reason (see below left). The surface of every Armstrong Cork Cot is made up of millions of tiny cork cells. As the yarn passes under the cot, the cells act like tiny suction cups . . . they pick up the loose fibers and carry them under the clearer.

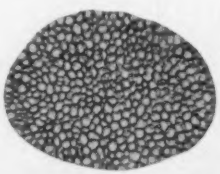
These millions of cork cells also give the cot its exceptional high-friction surface. This is why cork cots keep a firm grip on the fibers and draft such strong, uniform yarn . . . why they resist slicking and reduce clearer waste as much as 50%.

Armstrong's Cork Cots are economical, too. They are low in initial cost and provide two to three years' service with a minimum of maintenance. Occasional buffing keeps them spinning like new.

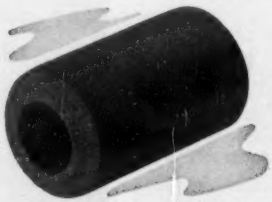
You'll find it hard to match Armstrong's Cork Cots for economy and eyebrow resistance. Test them on a frame in your own mill and you'll see. Call your Armstrong representative today for samples or write Armstrong Cork Company, Textile Products Department, 3601 Arch St., Lancaster, Pennsylvania. Available for export.

ARMSTRONG'S CORK COTS

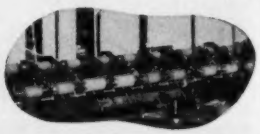
for high-quality spinning at low cost



Superior Friction—Here (magnified many times) are the tiny cork cells that give cork cots high friction.



Seamless—Extruded in one piece, Armstrong's Cork Cots have no seams to cause premature failure.



Economical—Low in cost, easy to maintain, Armstrong's Cork Cots keep covering costs to a minimum.

practical problems confronting manufacturers as a result of new products and techniques can be solved in the textile school under conditions ideal for the purpose. It is not expected that academic routine would be disrupted, but in most cases, participation by students would enhance their textile education.

How Business Expansion is Financed. Only a small portion of the funds needed for business expansion from 1946 through 1949 came from new stock issues. Retained earnings have been an important source of new capital, but this has resulted from a low level of dividends relative to other factors rather than from exceptionally high profits, according to National Association of Manufacturers. Business in 1949 had surplus funds which it held in the form of additions to cash or government bonds, a universal tendency throughout all industries, with only minor exceptions.

To Improve Quality of Boys' Wear. An effort to improve the character and quality of boys' wear is being made by joint efforts of The Wool Bureau and Boys' Apparel Buyers' Association.

Cotton Scientists to Meet at Pinehurst. To step up cotton research for both civilian and military uses, top textile scientists will meet in Pinehurst, N. C., February 7-9 for the second Cotton Research Clinic sponsored by the National Cotton Council. The first clinic was held in Washington last year. A report on this first meeting is available from the Council.

Columbia's Industrial Personnel Conference. Columbia University, New York City, will hold a "Conference on Industrial Personnel" March 19-23. The conference will take the form of both lectures and round-table discussion. Companies are encouraged to send the top personnel man and a first-line supervisor who must implement and carry out management's policies.

Rayon from Cane. Italian production of high grade rayon cellulose from a domestic cane now totals 44,000 tons a year and is helping the Italian synthetic fiber industry to meet its difficult problem of acquiring raw materials. Previously rayon cellulose was obtained from northern fir and spruce grown in Norway, Sweden, Finland, and Canada.

BRITISH TEXTILE SCIENTISTS AND EDUCATORS VISIT THE UNITED STATES

The group of distinguished British textile scientists and educators who came to this country at the invitation of the National Council of Textile School Deans. They visited textile schools, research organizations, and mills.

Front Row (left to right): J. M. Preston, Lecturer in Textile Chemistry, University of Manchester; J. B. Speakman, Professor of Textile Industries, University of Leeds; W. E. Morton, Professor of Textile Technology, University of Manchester; J. G. Martindale, Principal, Scottish Woollen Technical College, Galashiels, Scotland; and G. A. Bennett, Head of Textile Department, Salford Royal Technical College, Salford, England.

Second Row (left to right): J. H. Wakelin, Associate Director of Research, Textile Research Institute; J. C. H. Hurd, Head of Textile Department, Leicester Technical College; H. S. Bell, Head of Textile Department, Huddersfield Technical College; R. G. Oversby, Head of Textile Department, Bradford Technical College; and J. H. Dillon, Director of Research, Textile Research Institute (U. S. A.).

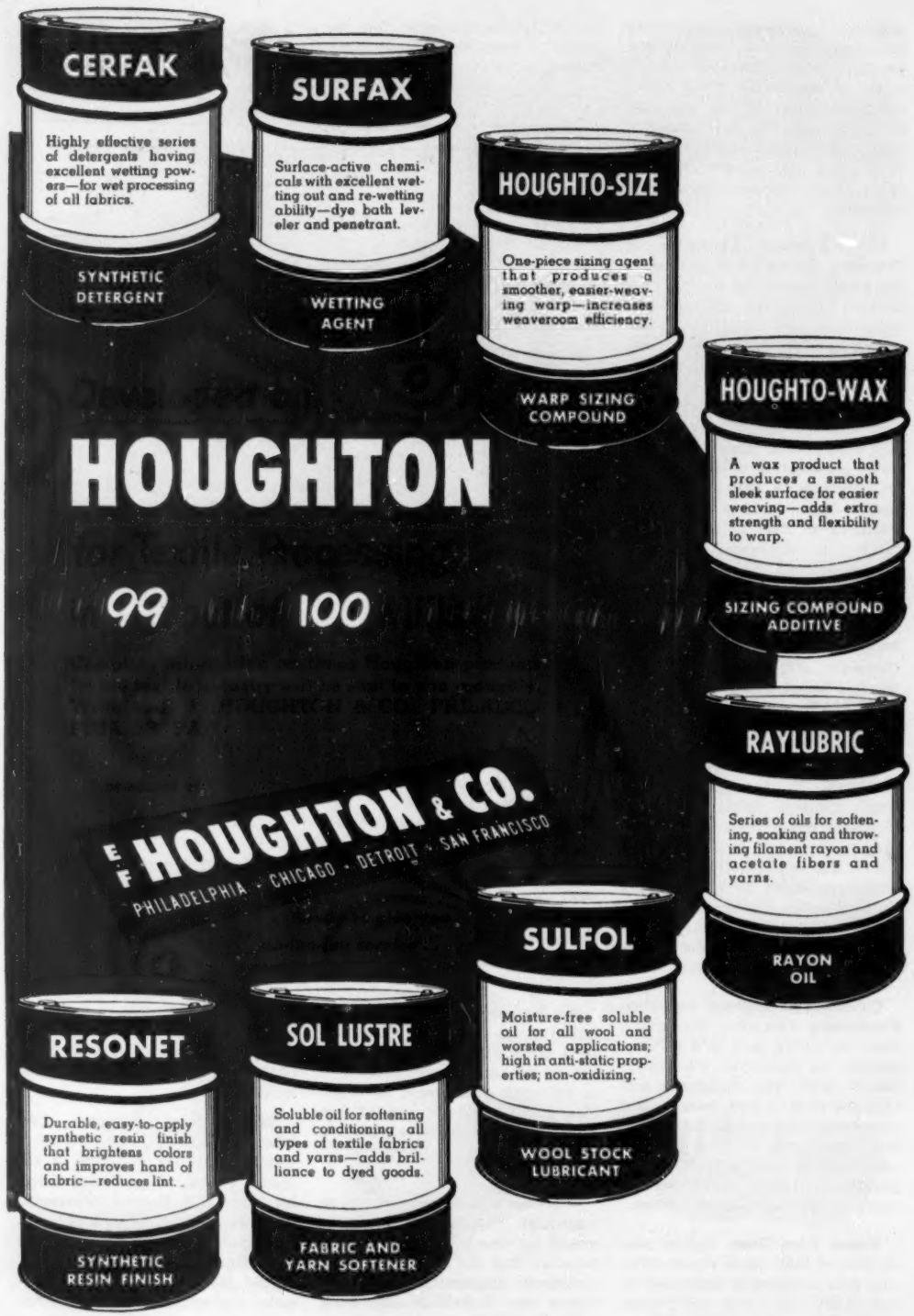
Cotton Insect Damage 1950. The 1950 cotton crop suffered the second highest damage in history, in dollars and cents value. Estimate is that the yield was reduced 16.5% because of pests.

Ski Sweater is Water Repellent. A fine gauge jersey knit ski sweater is made permanently water repellent by an exclusive process, it is reported. Introduced by Fred Picard, ski wear designer of Sun Valley, the sweater is intended to replace the conventional poplin jacket.

Deferment of Employees. If an industrial deferment from the armed services is desired, it is imperative that the employer file a statement requesting deferment before the individual has been classified by his local draft board. The time to file original request for deferment is the moment an employer decides that a man is essential. No standard form is necessary; a letter containing the information is sufficient.

New Sizing Process. A new process which is reported to make possible the automatic take-up on the warp of a predetermined quantity of size, irrespective of variation in sizing conditions, has been developed by the British Research Association. Technical details are not available.

Expand Wool Research. The Wool Bureau, Inc., has adopted a widely expanded program of research, education, and advertising for 1951-52. F. Eugene Ackerman, who has been acting in a consulting capacity, is now president. The Wool Bureau is an amalgamation of the International Wool Secretariat, representing the wool grow-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Highly effective series of detergents having excellent wetting powers—for wet processing of all fabrics.
SYNTHETIC DETERGENT
SURFAX
Surface-active chemicals with excellent wetting out and re-wetting ability—dye bath leveler and penetrant.
WETTING AGENT
HOUGHTO-SIZE
One-piece sizing agent that produces a smoother, easier-weaving warp—increases weaveroom efficiency.
WARP SIZING COMPOUND
HOUGHTO-WAX
A wax product that produces a smooth sleek surface for easier weaving—adds extra strength and flexibility to warp.
SIZING COMPOUND ADDITIVE
HOUGHTON
99
100
E F HOUGHTON & CO.
PHILADELPHIA · CHICAGO · DETROIT · SAN FRANCISCO
RAYLUBRIC
Series of oils for softening, soaking and throwing filament rayon and acetate fibers and yarns.
RAYON OIL
SULFOL
Moisture-free soluble oil for all wool and worsted applications; high in anti-static properties; non-oxidizing.
WOOL STOCK LUBRICANT
RESONET
Durable, easy-to-apply synthetic resin finish that brightens colors and improves hand of fabric—reduces lint.
SYNTHETIC RESIN FINISH
SOL LUSTRE
Soluble oil for softening and conditioning all types of textile fabrics and yarns—adds brilliance to dyed goods.
FABRIC AND YARN SOFTENER

ers of the British Dominions, and the American Wool Council which represents wool growers and wool textile interests.

New Textile Hall Corp. Officers. William G. Sirrine has been elevated to chairman of the board of Textile Hall Corporation, and James H. Woodside is the new president and treasurer. Textile Hall is the scene of the Southern Textile Exposition, often known as the Greenville Show.

Curtailment of Production Equipment. With some manufacturers of textile equipment expecting in the near future to commence production of defense work, it is possible that textile production equipment output soon may be reduced. One manufacturer of full-fashioned equipment expects early curtailment of full-fashioned machine production, and notices already have been received by the mills from a heavy textile equipment manufacturer that the supply of scarce metal has been allocated the organization.

Use of Cheaper Wools Through Research. Science may be able to alter the basic structure of the wool fiber to permit the substitution of less expensive and more plentiful grades of wool for higher priced fibers in fine wool apparel, according to Giles E. Hopkins of The Wool Bureau. World-wide research is being carried on to discover what basic characteristics of the wool fiber make it the ideal material for human apparel, he said.

Textile Scholarships. The New England Textile Foundation, 68 S. Main St., Providence, R. I., will award up to twenty $2000 textile college scholarships in 1951 in the textile colleges of New England. Basis, the high school record and exam for college entrance. Write Foundation for full information.

Textiles and Rubber. Longer belt life has resulted from new, stronger fabrics, cord, and fibers used to make the strengthening carcass of belts, according to W. L. Smith, technical superintendent of B. F. Goodrich Rubber Co. Also, he pointed out that hose with greater strength and lighter weight is now being manufactured as a result of the availability of synthetic fibers. Weight of oil suction and discharge hose has been reduced about 50 per cent in the past decade by these means. A synthetic filling yarn in one fire hose yields jackets 12 per cent lighter with 50 per cent greater strength.

Report on Japanese Cotton Industry. A report of his journey to Japan in the autumn of 1949 to study the cotton textile industry of that country has been prepared by Dr. W. T. Kroese, general manager of the Royal Mills in Holland, and published by Stenfert Kroese-Leiden (Holland). Presented are: the general make-up of the Japanese industry; facts and figures on import, production, and distribution; methods of manufacture; efficiency data and cost calculations; and labor practices.

"Orlon" Sweaters. 43 leading stores in 30 U. S. cities are reported to have been sent a quantity of "Orlon" sweaters, primarily for the purpose of determining consumer reaction, by Glasgo, Ltd., Inc., of Philadelphia. According to Samuel Glass, president of the firm, results with "Orlon" are much more satisfying than those achieved with spun nylon.

Directory of Research Services. Fields of specialization, key personnel, contract policies, and capacity of research organizations in 14 southern states will be presented in a directory to be published the early part of next year, according to the Southern Association of Science and Industry, Inc., Atlanta, Ga. It is designed to help manufacturing executives solve problems in chemistry, electronics, etc.

Hand-Painted Fabrics to U. S. Produced in the city of Puebla, Mexico, hand-painted fabrics are being sent to this country. Orders from U. S. stores are for blouses, skirts, scarves, beach jackets, tablecloths, and curtains, in addition to bolt material.

Cotton Delivery to Northern Mills. Attempting to facilitate delivery of cotton to northern mills, a bill has been introduced into Congress to require the Commodity Credit Corporation to warehouse 150,000 bales of suitable stock in the northern area.

Fertilizer Bags for Re-Use. Limited tests conducted by the USDA indicate that fertilizer bags made of vat-dyed or printed cotton fabrics may have approximately the same re-use value as similar bags now widely used for storing and shipping flour and feed.

Adjust Belts by Turnbuckle. A torque-arm speed reducer provides easy and quick adjustment of V-belts through use of a turnbuckle, without sliding motor base or flexible coupling. Requiring no foundation or support for the reducer itself, the exacting job of lining-up is eliminated. Dodge Mfg. Co.

LABOR RULINGS

Loans to employee made by government contractor cannot be set off against unpaid overtime compensation due employee in proceeding by the government for liquidated damages under Walsh-Healey Act.

Transfer of union steward to lower-rated job in his department was proper during forced reduction, where contract provided that stewards shall be continued at work in their department so long as any of their constituents remain at work; but does not require retention in their job classification.

Employer may discharge employee who makes deliberate false statements with intent to injure employer and to compel him to violate the act.

GAYLORD product protection is customer PROTECTION

SLIGHTLY DAMAGED MERCHANDISE can, and often does, create just as much ill will with customers as merchandise damaged to the extent that a claim is justified.

MAYBE YOU HEAR FROM YOUR CUSTOMER who receives slightly damaged merchandise and can make an adjustment with which he is satisfied. But how many customers fail to mention this annoyance and harbor ill will toward you that may leave the door open to your competitors?

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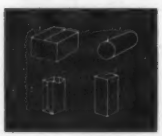

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AN EXECUTIVE Views

THE NEWS IN TEXTILES

King Cotton

A FEW weeks ago, in spot markets all over the country, the price of raw cotton crashed through the 44¢ a pound mark and shattered a record which had stood since 1920. The men who were able to predict accurately the future price of this commodity are now spending the winter in Florida, and this writer is definitely not in this category. Therefore, it is impossible to say what the price will be by the time you read this, but as this is written, 44¢ cotton is the chief topic of conversation.

The combination of a short crop, the Korean war, and a relaxation of export curbs was too much for the stability of the market. King Cotton is as high as a kite, and when he will come down, nobody knows.

Generally speaking, cotton manufacturers do not complain too much when cotton is high because the grey goods market frequently follows the raw cotton market. Many manufacturers contend that they make more money when cotton is high. Now, however, quite a few of them are wondering how long it will be before their goods are priced out of the market.

With wage rates higher than ever and with raw cotton prices setting new records, many manufacturers are also considering whether or not the spinning of some of the synthetics might be better business than spinning cotton. There is, of course, a limit to what a housewife will pay for a cotton print dress, and many manufacturers are wondering whether or not that point has been reached.

Among those who are inclined to worry, there is the feeling that all of us might be in for some rough sledding if military buying suddenly ceased. It might come to pass that goods made with 44¢ cotton will become terrifically hard to sell. There is nothing anybody can do about it, but it is the sort of thing that can keep you awake at night.

Confederate Gray

Speaking of purchases by the military, there is a rumor going the rounds that the Army may, within the next several years, change from olive drab uniforms to something in gray or gray-blue. No doubt this is a rumor which had its origin south of the Mason and Dixon Line, but if it should turn out to be true, such a change would prove to be of tremendous interest to manufacturers of woolens and worsteds and other such items.

Soldiers have never been particularly fond of the olive drab color featured in winter uniforms. Nobody, of course, (nobody in the Pentagon) has ever cared particularly what the soldier thought about his uniform, but at least it might strengthen his morale if he could wear something a little more glamourous than what is now prescribed under Army regulations.

The "fly boys," it is said, are now the envy of the military services because of their dapper blue uniforms. There are some who contend that if the Air Corps is to wear blue, the Army should certainly wear gray. It has been learned reliably that Senator Claghorn is beginning a personal fight to see that Confederate gray is substituted for the currently used olive drab.

(*Please turn to page* 93)

What Makes a Fabric Go Wrong?

After over 20 years of test conducting and research on cases of actual damage to fabrics submitted by laundry customers, technicians in the laboratories of the American Institute of Laundering claim that a large percentage of fabrics "fall by the wayside" because of chemical or mechanical damage and faulty manufacture.

Chemical or mechanical damage is usually traceable to things done at home.

Where damage can be traced to a fault of manufacture, the unsatisfactory condition is always due to either the weaving or finishing of the cloth, the dye used, or the construction of the article, the technicians report.

Shrinkage of woven cotton and linen fabrics, according to tests made at the Institute, is a direct result of the manufacturing processes themselves.

Resin-type finishes are also a source of trouble, the Institute reports; too, dyes are sometimes the downfall of a fabric.

IS STATIC YOUR PROBLEM?

use

STANTEX* ANTI-STATIC OILS and FINISHES

Yes, Stantex Oils and Finishes eliminate undesirable and costly static effects in the processing of staple, yarns and fabrics. You immediately get greater efficiency, increased production and improved quality.

ON STOCK . . . when applied to all fibers and blends at picker, Stantex Oils and Finishes reduce fly waste and broken ends, and produce more uniform yarns.

ON NYLON . . . when applied to yarn in coning and slashing, they eliminate wildness and produce better knitting and weaving results.

Many other successful applications are made on wool, rayon, acetate, cotton and synthetics. If static is a problem for you in processing, we invite your inquiry. Our technical staff will assist you to select the Stantex Anti-Static Oil or Finish suitable for your purpose.

STANDARD CHEMICAL PRODUCTS, Inc.

1301 JEFFERSON STREET, HOBOKEN, NEW JERSEY

Chattanooga, Tenn. • Paterson, N. J. • Providence, R. I.
Sunbury, Pa. • Sacramento, Cal. • Greensboro, N. C. • Leakville, N. C.

Manufacturers of: **Pyrotex** **Stanpol*** **Retardine*** **Stanteosine** **Standafin**

*Trade Mark

Excess Profits

Confronted with higher cotton costs and higher wage rates, some manufacturers are beginning to wonder if they are going to have any *excess* profits, but Congress, always alert to every possibility for levying a tax, has already fixed its eagle eye on this lucrative source of income. In hearings held during late November, numerous witnesses tried to tell the House Ways and Means Committee that an excess profits tax was unfair, unworkable, and impractical. Congress, of course, has never been particularly concerned with these details, and the Committee quickly straightened out the witnesses by telling them that they were not being asked whether they wanted spinach or ice cream, but instead were merely being asked how they wanted their spinach.

One witness was Paul E. Crocker, treasurer of Pepperell Manufacturing Company, who spoke for the American Cotton Manufacturers Institute, which represents plants in 26 states. Mr. Crocker's testimony was somewhat unusual on two scores. First, he said that he did not approve of an excess profits tax, but then he went on to say that if one were enacted he thought that it should follow certain specifications. Secondly, his testimony was unusual because of the fact that upon its conclusion Chairman Robert L. Doughton stated that the ACMI brief was perhaps the most constructive statement made since the hearings began.

Since practically all textile mills have spent large sums of money for modernization and improvement of plant and equipment in the years since the end of World War II, these sums running into several million dollars for some companies, it is apparent that a tax law which did not take this fact into consideration, or which was unfairly administered, could ruin the textile industry.

All industry, of course, has spent quite a bit for modernization during the last several years, but the difference lies in the fact that for many years prior to 1940 the rate of return for most plants had been so low, so irregular, and sometimes so non-existent that it was frequently impossible to purchase new equipment. As a result, plants had become run-down and a good portion of the industry was actually obsolete. The war brought increased demand and increased earnings and thus it was possible to buy machinery, except for the fact that it was not available. That is why so much has been bought in the years since 1946; that is why the total of invested capital in the industry has risen tremendously, and that is why the textile industry's position is somewhat different from that of other industries.

Jan. 15-18—2nd Plant Maintenance Show and Conference, Auditorium, Cleveland, Ohio.

Jan. 22-24 — Annual meeting, National Cotton Council, Hotel Buena Vista, Biloxi, Miss.

Jan. 22-26—10th International Heating And Ventilating Exposition (also known as the Air Conditioning Exposition), Commercial Museum, Philadelphia, Pa.

Jan. 26 — Golden Anniversary Banquet, Philadelphia Textile Institute Alumni Association, Warwick Hotel.

Feb. 7-9—Cotton Research Clinic, sponsored by National Cotton Council, Pinehurst, N. C.

Mar. 4-6—12th annual Southern Safety Conference & Exposition, Birmingham, Ala.

Mar. 29-31—2nd annual meeting, American Cotton Manufacturers Institute, Inc., Greenbrier Hotel, White Sulphur Springs, West Virginia.

April 17-20—29th National Packing Exposition, Auditorium, Atlantic City, N. J.

April 23-27—Second biennial Wet Processing Exposition, 71st Regiment Armory New York, N. Y.

April 28-May 5—National Cotton Week.

April 28-May 20—Inernational Textile Exhibition, Parc des Expositions, Lille (Nord), France.

April 30—47th annual meeting, National Association of Hosiery Manufacturers, Claridge Hotel, Atlantic City, N. J.

April 30-May 1 — 14th Hosiery Industry Conference, Claridge Hotel, Atlantic City, N. J.

April 30-May 4—Knitting Arts Exhibition, Atlantic City (N. J.) Auditorium.

April 30-May 4—National Materials Handling Exposition, International Amphitheater, Chicago, Ill.

April 30-May 11—British Industries Fair, London and Birmingham, England.

May 16-18—Annual convention, Cotton Manufacturers Association of Georgia, Sheraton Plaza Hotel, Daytona Beach, Fla.

Oct. 17-19—Annual convention, American Association of Textile Chemists and Colorists, Hotel Statler, New York, N. Y.

Walsh-Healey

If the XYZ Corporation gives you a contract for more than $10,000 and tells you that what they purchase from you will be further processed and then will be delivered to the government, is your plant subject to the Walsh-Healey Act?

If you have a situation like that maybe you had better send for your lawyer, because this writer is not an attorney and will not (repeat: will not) acompany you to jail. However, the answer to this question lies in whether you are a *substitute manufacturer* or a *subcontractor*. Since it is not too difficult to determine which you are, maybe a few comments will clarify the situation.

Stated simply, if the industry of the primary contractor (the one for whom you are going to do the work) customarily buys the product you are going to supply, then you would be classified as a subcontractor and not subject to the law. An example of this is a weaving mill selling goods to a garment manufacturer. The garment industry usually buys such goods in the market and thus the weaving mill is a subcontractor and not subject to Walsh-Healey.

On the other hand, a cotton yarn mill selling yarn to a weaving mill is in a different position because in the cotton weaving industry it is the usual custom to spin your own yarn. Thus, in this instance the yarn mill would be considered a substitute manufacturer and subject to the act.

So there you have it. When it comes to the finer points of the interpretation, however, you had better get good legal advice. The only guarantee we make is that if you are now a subscriber to TEXTILE INDUSTRIES, we shall ask the publishers to forward your usual copy to the nearest Federal penitentiary instead of to your present address, in the event your ideas (or ours) disagree with those of the Department of Labor.

INVESTIGATE

nylon travelers

PROVE TO YOURSELF THESE IMPORTANT ADVANTAGES

1. Higher spindle speeds.
2. More yardage on your present bobbins.
3. Much less lubricant required.
4. Less end breakage.
5. Longer life. Less down time for changing travelers.
6. Cleaner frames—cleaner rooms.

1. LIGHT
2. STRONG
3. RESILIENT
4. SMOOTH
5. TOUGH
6. EXTREMELY RESISTANT TO WEAR

Many thousands of these Nylon Travelers are in daily use—giving complete satisfaction.

SEND FOR SAMPLES

MANUFACTURED BY
THE CLARK THREAD COMPANY, INC.
264 Ogden Street, Newark 4, New Jersey

SELLING AGENT
THE SPOOL COTTON CO.
264 Ogden Street
Newark 4, New Jersey

Shorts and Remnants

Modern Production—
Baby Diapers

While in the throes of getting information for your annual Modern Production issue [February] which gives TI's report on equipment performance in the mills, along comes the intelligence from the Cotton Council that American babies are getting better equipped with diapers all the time. Diaper output increased 16.6% between 1948-49 while the baby crop increased only 5%.

And so, our worries are being dissipated one by one.

Pat on Back

"The November 1950 issue is an attractive and wonderfully informative thing. Congratulations."

THOS. H. QUIGLEY
Industrial Education Dept.
Georgia Tech

Reprints to All . . .

". . . I shall send these reprints* to all the members of the Public Relations Society of America and all the members of the International Council of Industrial Editors."

► *"The Employee Publication—An Aid to Good Community Relations," TI, April 1950.

Quality Control

" . . . would appreciate receiving 10 reprints of the following article: 'Practical Quality Control System,' by Frank L. Byrd."

LABORATORY
Bates Mfg. Co.
Lewiston, Me.

Industry Area Surveys

" . . . would appreciate receiving a copy of the reprints of your Industry Area Surveys. Thanking you for this courtesy . . . "

T. F. WALSH
M. T. Stevens & Sons Co.
Hockanum Mills
Rockville, Conn.

► A few reprints still available. See TI, Nov. 50, p 85.

"My Private Secretary"

"Recently we purchased some copies of 'My Private Secretary.' We find that this is of particular interest to individuals in the cotton textile trade . . . wonder if you publish a similar type of book dealing with the woolen and worsted trade."

HERBERT C. ERVIN
M. T. Stevens Southern
Milledgeville, Ga.

► "My Private Secretary" is primarily designed for mills using cotton type equipment. Available with subscription to TI. A "Secretary" for woolen and worsted mills is not available at this time.

Aw, Rats!!

" . . . am desirous of securing a reprint of an article entitled 'Aw, Rats!' appearing in the October 1950 issue of TEXTILE INDUSTRIES. In fact, I would appreciate your sending me an entire publication rather than any specific items as there are other articles of interest to me."

► TI's editors are delighted the rest of the issue wasn't wasted.

More Requests for
"If History Repeats - - -"

The S&R page for November '50 listed nearly a column of responses to and requests for "If History Repeats - - -" (Sept. page 132). TI must get around. Typical requests for reprints or tear sheets are those coming from Curtis Publishing Company, "This Week," American Broadcasting Company, "Newsweek," and a number of advertising agencies.

MEET CLIFF

TI's Carolina Representative for Advertising

Cliff "The Genial Red Head" Rutland who covers the Carolinas and Virginia as TI's advertising representative, joined the company in 1945 upon returning from the Pacific theater of World War II where he served in the Navy's Air Force.

After being with "Electrical South" magazine for two years, Cliff was made assistant business manager of TEXTILE INDUSTRIES in 1948 and served in that capacity until February 1950.

He is married, has one daughter, and makes his home in Gastonia, N. C.

Saving the Stockings

". . . interested in the writeup on 'Thermoplastic Setting of Mends.' Please give us the name of the company making this type of equipment."

WM. B. ANTHONY, JR.
H. W. Anthony Co.
Strausstown, Pa.

► Thermset, Inc., North Commercial St., Manchester, N. H.

Wool Core Testing

". . . send us six copies of 'A Symposium on Core Testing Wool' in January 1950."—Henry Brady, Hart, Inc., Boston.

". . . appreciate copy of 'Core Testing Wool' . . ."—Edward Kane, chemical engineer, Cuno Engineering Corp., Meriden, Conn.

The Ulcer Season

This is the Ulcer Season for industrial publications' advertising men . . . in another thirty days or so if an advertising salesman in this field hasn't developed signs of ulcers he is a pretty safe risk for another eight months.

The cause? Wondering if one has made the grade on new advertisers who have been seen time and again about using their publication during the coming year, for one thing! Wondering about renewals from advertisers who have been using their publications but have not yet okeyed their list for 1951, for another.

Ninety per cent of TI's advertising contracts expire from October to February because most companies' ad budgets are on a calendar year basis and the last ad of their schedule will fall in those months.

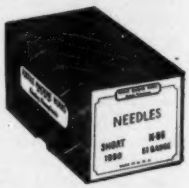
As of this writing the 1951 prospects look very good, and this should be of interest to mill men who recognize the large quantity of helpful information contained in TI's advertising pages.

Unusual Strength

You can depend on Textile Spring-Beard Needles for the unusual strength required in high-speed knitting operations. They are strong at the beard, strong at the butt, strong at the shank . . . strong at *every* crucial point.

Strength is just one of the many advantages you get in Textile Spring-Beard Needles. A special steel formula, superior tempering and scientific controls —automatic and electronic—give you longer-lasting needles, better hosiery fabrics and bigger profits.

TEXTILE MACHINE WORKS, READING, PENNA.

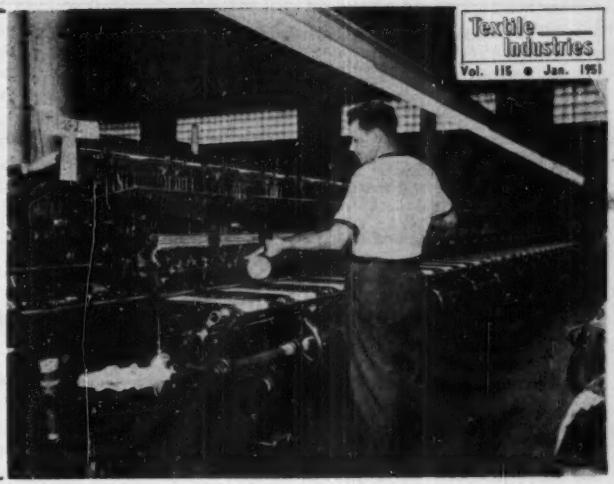


Textile

SPRING-BEARD NEEDLES

For Full Fashioned and Warp Knitting

Textile Industries
Vol. 115 • Jan. 1951



NO SIR! THERE ARE NO FLIES on this full-fashioned knitting machine. Actually it is well maintained and highly efficient. The knitter is lubricating the needles and sinkers with a good grade of white oil. Once daily he applies the lubricant to the needle and sinker heads with the continuous sprayer shown in his hands. Knitters and other operatives at Van Raalte are "lubrication conscious."

With Full-Fashioned Hosiery Machines

Proper Lubrication is Essential

By WILLIAM M. SMITH
Superintendent
Van Raalte Co., Blue Ridge, Ga.

AT THE BLUE RIDGE, Georgia, plant of the Van Raalte Co., proper lubrication of full-fashioned hosiery knitting machines is emphasized. Supervisory personnel and knitting room operatives alike are "lubrication conscious."

In the air conditioned knitting room at this North Georgia mill there are seven 45 gauge, 26-section "Reading" full-fashioned knitting machines; eleven 51 gauge, 26-section machines; ten 51 gauge, 30-section machines; and eight 60 gauge Reiner "Twin-Knitter" machines. Temperature in the room is maintained at 80 F with a tolerance of ± 1 degree; relative humidity, 50%±1.

Responsibility Fixed. Responsibility for lubrication of the knitting machines is divided between the knitters and a man whose primary duty is lubrication of the machines. Generally speaking, the knitters lubricate all parts above the table of the machines, including the needle bar hinges; whereas the oiler lubricates all other parts of the machines. (For list of parts lubricated by each, refer to the box on page 98.)

The Knitter's Part. Knitters are provided with two lubricating appliances: (1) an ordinary, hand-operated, push bottom type squirt oiler of one-half pint capacity and (2) a hand-operated Hudson type continuous sprayer.

The squirt oiler is used to apply a general purpose lubricant to open oil holes and shafting. At our plant two oils are employed as general purpose lubricants—one of these is a red engine oil with a viscosity of 300 S.U.S. at 100 F, while the other is a pale oil of approximately the same viscosity containing a rust inhibitor. It has been found that by using the two lubricants alternately, seepage of "rusty oil" from the bearings supporting oscillating shafts is practically eliminated.

There is no problem in connection with the use of the two products since only one storage tank is provided for the general purpose lubricant. As soon as the supply of one type has been exhausted, a drum of the other type is dumped into the tank.

Needles and Sinkers. For the lubrication of the needle and sinker heads the knitters use the hand operated continuous sprayer to apply a good grade of white oil

Effective lubrication program results in efficient operation with a minimum of machine downtime.

Division of Responsibility for Lubrication

"Reading" Full-Fashioned Knitting Machine

Knitter	Oiler
Narrowing and Carrier Racks	Needle Shaft
Pointex Racks	Press Shaft
Carrier and Narrowing Rods	Front and Back Catch Bar Shafts
Shock Absorber and Friction Rods	Cam Shaft
Picot Bar Shaft	Bottom Drive Shaft
Knife Shaft	Narrowing Lifting Shaft
Welt Turner Arms and Shafts	All Cam Rollers
Reel Shaft	Coulier Pan
Switch Rod	Control Rods
Needle Bar Hinges	Jack Spring Bearings
Snapper Rod	Chain Drives
Coulier Bearings and Gears	Miscellaneous Parts Having Open Oil Holes
Needle and Sinker Heads	
Jacks	

having a viscosity of approximately 100 S.U.S. at 100 F. This oil is specially compounded to prevent rusting of the needles and sinkers; also for easy removal when the hosiery is washed prior to dyeing.

Needle and sinker heads are lubricated at least once a day by knitters on each shift. To prevent corrosion of needles during week-end shut-downs, knitters on the third shift spray lubricant on them as soon as the last set of stockings is taken off the machine on Saturday morning.

Friction Rods. While describing the knitter's responsibility in connection with lubrication of the full-fashioned machine, some mention should be made regarding lubrication of the friction rods. The knitter coats his thumb and forefinger with a small quantity of a heavy cylinder oil type lubricant (viscosity 140 S.U.S. at 210 F) and then smears this on the rods. Once each week he removes the leather from the friction boxes and "roughs up" the fibers with a rasp. The leathers are then saturated with the same heavy oil used on the rods and reinstalled in the boxes.

Coulier Motion. And last, but by no means least, the knitter assumes a responsibility in connection with the lubrication of the Coulier motion. This is the only part below the table that the knitter lubricates.

A wick type oiler feeds lubricant to the bearings of the Coulier motion, while a sight drop feed oiler provides lubrication for the surface of the Coulier gears. Since these oilers are conveniently located at the front of the machine, and realizing the importance of continuous lubrication to these important parts, the knitter gladly takes it upon himself to keep them filled.

The lubricant used in the oilers is a pale mineral oil with a viscosity of 750 S.U.S. at 100 F.

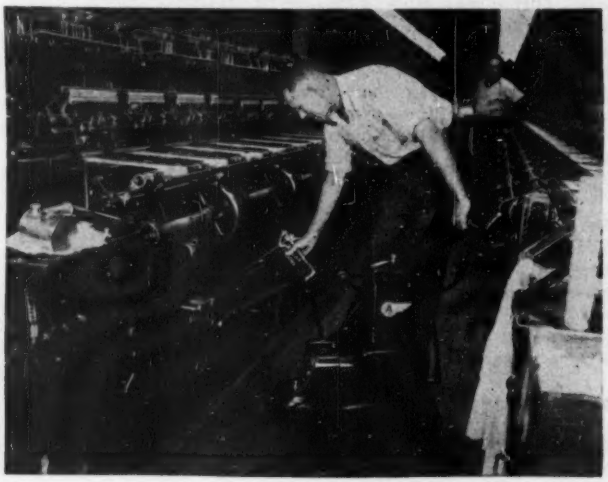
Knitters are fully aware of the advantages accuring to them through proper lubrication of these parts; when a full-time lubrication man was employed they felt that they should continue to have the responsibility for this phase of the lubrication program.

Oiler's Responsibility. As mentioned previously, a man with the primary duty of oiling is employed at our plant. It is his responsibility to lubricate all parts of the machines not oiled by the knitters. He works 40 hours weekly, his time being divided as follows: on five days each week he works approximately 6 hours per day. Over the week-end he lubricates the parts that are difficult to reach when the machine is running—for example, the lower drive shaft bearings.

His Equipment. The lubrication man uses three types of appliances: a hand-operated, push bottom squirt oiler of one-half pint capacity; a long spout, hand-operated oiler with pump enclosed for hard-to-reach places; and an electrically operated portable lubricating unit consisting of an oil reservoir, a pump, flexible hose, and gun, for lubricating pressure type fittings with oil.

The general purpose lubricant previously described is used in all three of these appliances. It is general practice for the lubrication man to oil all bearings equipped with pressure fittings on all machines at one time. Then he starts around with his oil can and

PRESSURE TYPE FITTINGS are lubricated by means of this electrically operated portable unit which consists of an oil reservoir, a pump, hose, and gun. Note long spout for hard-to-reach places.



lubricates all bearings having open type oil holes. Frequency of lubrication of these parts is once each week.

Handwheel Shaft Bearings. The ball bearings supporting the handwheel shaft are lubricated twice yearly with a premium grade ball bearing grease of No. 2 consistency. These bearings are lubricated *while the machines are running* in order to prevent an excessive amount of grease being forced into them. Excessive lubrication causes overheating and undue wear of the bearing surfaces. New grease is pumped into the bearings until old grease begins to ooze from the vent.

Efficient operation and a minimum of machine downtime are results directly attributable to our effective lubrication program.

Suggestions for Processing Dynel Fiber on Cotton and Wool Systems

Three properties of dynel, an acrylonitrile-vinyl chloride staple fiber (announced on page 182, TEXTILE INDUSTRIES, February, 1950), combine to make it an easily spinnable fiber; these are strength, natural crimp or curl, and the irregularly shaped cross section which varies from a horse-shoe shape to a flat or ribbon cross section, offering a large surface for inter-fiber friction. The fibers have an antistatic finish. Hygroscopic properties of this finish permit processing at relative humidities above 55%.

Cotton System. On the cotton system two-denier, 1½ inch dynel is being spun into 50s cotton count, and three-denier, 1½ inch into 20s cotton count on commercial equipment. Six-denier 1½ inch has been spun into 10s with satisfactory results on an experimental basis.

The only changes in opening and picking to be made are because dynel is considerably more bulky than cotton. Higher pressure on the calender rolls is helpful in reducing the bulk of the lap. More air through the condenser screens helps to even the lap and compact the fibers, and split lap preventers are generally required. Kirschner beaters do an excellent job of opening the fiber locks, and an even, lump-free lap can be obtained.

A cylinder-to-flats setting of fifteen-thousandths of an inch on cards results in the formation of a clear web and minimizes loading on the cylinder. The relatively slow licker-in speed of 250 rpm also helps diminish loading.

A 65-grain sliver permits adequate compression when drawn through the trumpets normally found on cotton cards.

Dynel handles very well on drawing frames equipped either with synthetic top rolls or metallic top rolls, especially if condensers are placed between the first and second, and between the third and back rolls. These condensers permit the fibers to spread out to 2⅞ in. only, and prevent the formation of feather edges which would cause trouble in lap-ups. A single drawing process has been found to yield a sufficiently even yarn.

The customary long draft roving equipment may be employed and twist multiples of approximately 1.1 for 1½ inch dynel are the rule.

Yarns may be spun with twist multiples as low as 2.50 in the coarse counts and 3.50 in the fine counts for knitting purposes, and conventional warp twists may be used for warp yarns.

Wool System. The finish applied to the fiber as it is shipped has been found to be sufficient for normal wool processing. Only very slight adjustments are sometimes found necessary on the cards, such as, a slight variation on the speed of the fancy, a change in the position of the comb, or a slight variation in the doffer speed.

Tape condensers function well with dynel fibers up to 2½ in. length, and various deniers from 3 up to 24 have been handled quite easily. The fibers from the condenser tapes rub well on the rub aprons.

Dynel ropings are easily spun, either on the mule or ring spinning frames.

Bradford System. On the Bradford system, the 6-denier dynel yarns do not require combing, and they handle well through the various gilling and drafting stages. The Noble comb has not yet been used satisfactorily on the finer deniers. Worsted type yarns have been made of 3-denier dynel without combing.

Fabrics made from dynel are easily napped. A very durable, resilient nap may be made, and the nap has a very pleasant hand. It is warm to the touch; easily launderable; and extremely quick drying.

Abstract of paper presented before American Association of Textile Technologists by R. W. Gaines, Carbide & Carbon Chemicals Div., Union Carbide & Carbon Corp.

Editor's Note: It is understood that within the next six months production of dynel will be doubled at the South Charleston, W. Va., plant of Carbide & Carbon Chemicals Division of Union Carbide & Carbon Corp.

The complete output has already been spoken for, according to company officials. However, if the demand for dynel staple and tow grows, further expansion is contemplated.

The low-cost continuous process inherent to dynel and the abundance of vinyl chloride and acrylonitrile, which are used in the fiber's production, adds wartime importance to the synthetic.

Practical Time Studies to Assist

INSTEAD of giving the supervisor a job load sheet as the final result of a time study, Tallassee Mills supplies a simple table showing the number of operatives required to run a job under various production schedules. This article describes the time study procedure and shows the final result.

NEVER in the history of the cotton industry has time study been more talked about and utilized less.

Time study is a useful tool, but without the proper application, the best tools are useless.

We have endeavored to simplify all time studies to the point where they will be used daily by management, supervisors, and the employee.

The supervisor in a textile plant is not interested in time study unless the results have been simplified so that they can be easily used and understood by all persons concerned. He wants facts and figures that can be used daily without having to do any calculating.

Time study men need to realize that their job is not completed until the facts, made available by their time studies, are actually put to use. We have used the results of time studies for writing daily schedules where practical. The machine jobs and the jobs based on machine production have been simplified and put into forms that are easily used.

Study According to Operation. We think there are three distinct divisions of time studies that can be applied to any manufacturing operation. The divisions are:

1. Cleaning jobs
2. Machine jobs
3. Jobs based on machine production

Let us analyze the cleaning jobs: We have to know what operations are to be performed and the unit time for each operation. These cleaning operations can be classed under two headings:

1. Cleaning done from necessity
2. Cleaning done based on judgment

After we have determined the cleaning operation necessary to be done, we have to determine the frequency of the operations.

Take an example of removing back flys from a card. The factors governing how often these flys will be removed is the length of time the card will run on a specified stock before the storage space under the card becomes congested to the point of lowering the quality of the stock run.

Floor sweeping is an example of cleaning operations that are based on judgment. How often should a floor be swept? You can make all the time studies on this you want to, but the frequency of sweeping the floor will be based on someone's judgment.

We have found that the operational frequencies to be determined by judgment are more satisfactorily arrived at by consulting all persons involved and considering the cost as the prime factor.

On any machine job which requires an operator (such as slubber tender, spinner, card tender) it is necessary to:

1. Determine operations.
2. Make time study for unit times.
3. Pre-determine the frequency of operations from operating capacity of machines, stock used, etc.
4. Convert facts into unit time per frame day for stock run based on machine set-up.
5. Cover all changes, all speeds, and all stocks in job analysis summary.

On jobs (such as roving hauler, doffer, lap hauler) based on machine production we follow these steps:

1. Determine operations necessary to perform.
2. Time study for unit times.
3. Apply frequencies of the operation. These frequencies are obtained from the machine job study.
4. Simplify the results to a form easily used.

As an example, let us take an operation of warp twister creelers and doffers and follow the procedure of getting this information into a usable form.

Job Approach. Our approach to any job is:

1. Find the facts.
2. Make these facts known.

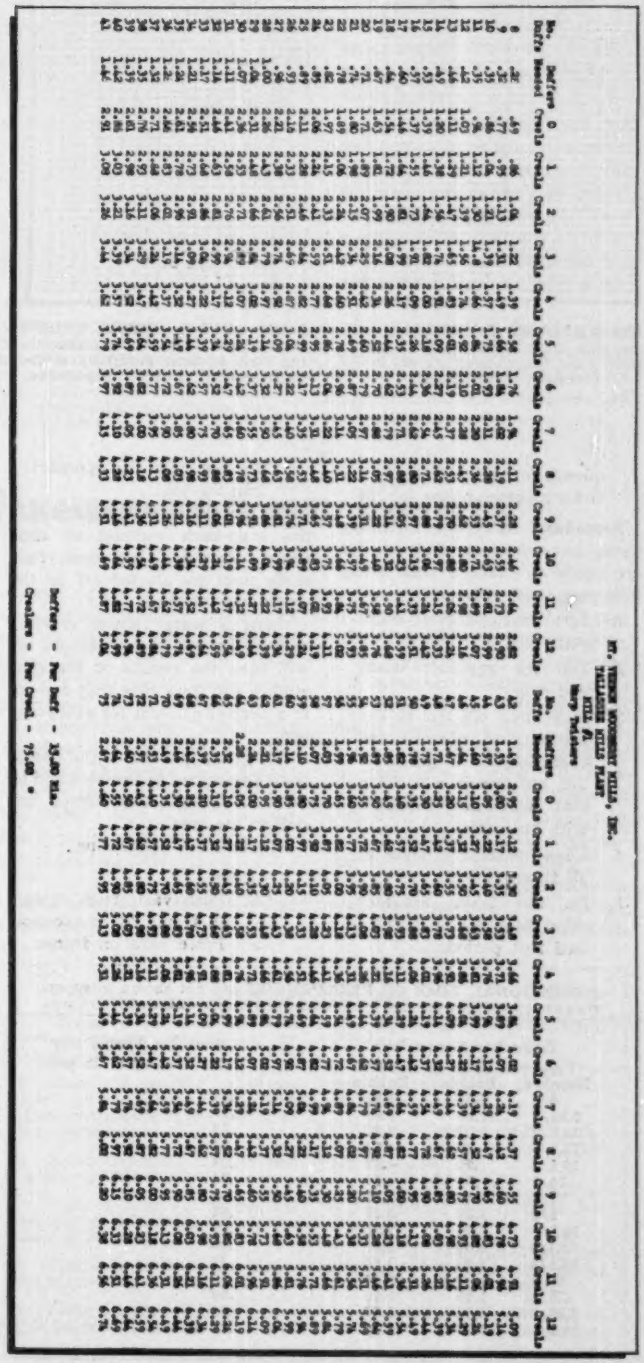
We go about this in the same manner as any one making a simplified time study. The following steps are employed:

1. Contact supervisor and discuss job in question with him. Write down his ideas.
2. Contact operator, discuss job, and write down his ideas.
3. Observe job through one or two cycles if possible, and make notes of any apparent improvements (that time study can suggest).
4. Break down job into operating elements considering above ideas.
5. Apply job methods to job break-down.

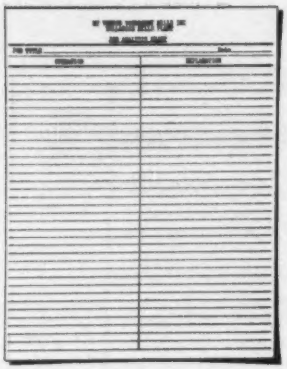
Overseers

By VIRGIL REDDEN
Tallassee (Ala.) Mills Division
Mt. Vernon-Woodberry Mills, Inc.

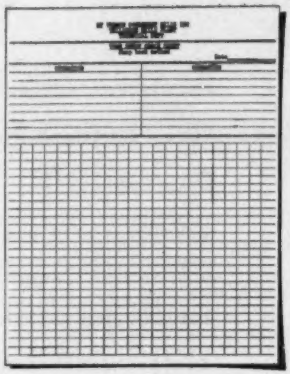
6. Write operations you want operator to perform in the order that they are to be performed.
7. Check each operation for proper way to perform.
8. Instruct operator the proper way by telling and doing. Explain why.
9. Have operator perform operation for you.
10. Repeat reasons to operator for performing operation in this manner. (If the learner has not learned, the instructor has not taught.)
11. See that the operator has the proper equipment.
12. Have operator follow operation procedure. Revise until operations are arranged in proper se-



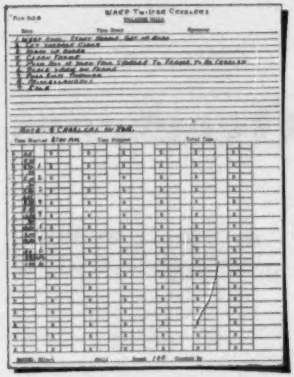
JOB LOAD TABLE FOR WARP TWISTERS. This is typical of the final form in which job load information is presented to supervisors at Tallassee. For example: Suppose we have 38 doffs in a day, and the section man figures he will have 10 creels during the day; he will need 1.35 doffers and 4.54 creelers, or a total of 5.89 operatives. A total of six would be used, five of which are creelers, and one is a doffer. In this instance, the five creelers have .46 less than a full job, and the doffer has .35 more of a job load. Therefore, the five creelers would assist the doffer in his job. Should the situation be reversed, the same would apply. Novices or apprentices should not be placed on jobs as regular operatives. Other mills should not attempt to use this chart, because the figures are for one mill and do not represent accurate data for various operations as practiced in other mills.



JOB ANALYSIS SHEET. This is the first form used by the time study man. Supervisors are not interested in this data.



TIME STUDY CHECK SHEET (Snap Back Method). For recording data of time study by snap-back method. Not for supervisor.



TIME STUDY CHECK SHEET (Continuous Method). Used in a continuous stop watch study. Supervisor does not need this.

quence for eight (8) hours.
Draw a sketch of the job.

Procedure. After the foregoing items have been performed, we are ready to make a time study following these rules:

1. Tell the operator when you start.
2. Tell the operator when you stop.
3. Stay close enough to the operator to observe the operation he is performing, but also in a position that will not interfere with his work.
4. Keep operator in sight at all times.
5. Do not leave operator other than at the authorized rest periods.
6. Do not help the operator run the job.

We use the continuous and also the snap-back method of time study. However, all new time study men are started off on the continuous method.

Using a warp twister creeling and doffing job as an example, we will take the results of the time studies and show how they are put in a simplified form for every-day use.

Following is a list of the operations performed by creelers and by doffers. Creelers are women and doffers are men.

Creeler's job operations:

1. *Creel*
   (a) Push yarn from storage to frame to be creeled.
   (b) Place yarn on frame.
   (c) Pull ends through.
   (d) Wrap ends, start frame, get up ends that come down, set yardage clock.
   (e) Mark up board.
2. *Clean frame*

If a frame doffs more than once per shift it will not be necessary to do the special cleaning after the first doff.

Brush between the spindles, brush spindle base, knee brake, base rail, doffer guard rail, and wipe rocker shaft and ring rail.

3. *Wrap ends on bobbin; start frame*

Creelers will get up all ends that come down and will set the yardage clock.

4. *Straiyhten up tangled yarn*

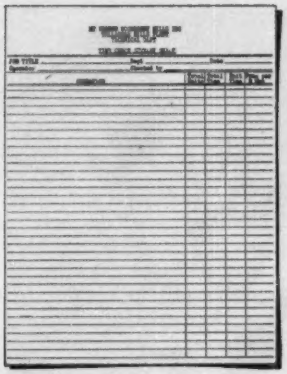
We do not show the operational time or frequencies because the employees and supervisors would not be interested in having to calculate a job load (see box).

The information has been condensed and put in the accompanying form (p. 101), used daily by the supervisors and the employees.

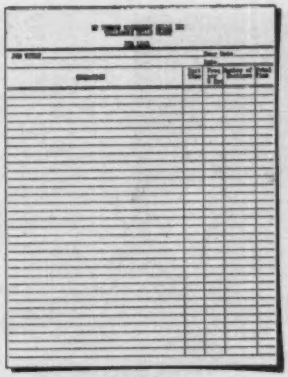
Final Form. The section man checks the frames five to ten minutes before shift changing time to determine how many frames he will have to creel for the next eight hours. As the supervisor knows from the number of frames running on each yarn number the approximate number of doffs for

OPERATIONAL TIME OR FREQUENCIES are not shown to supervisors because they are not interested in having to calculate job loads.

Doffs Per Frame Day			Creels Per Frame Day
Yarn Number	Big Bobbin	Small Bobbin	Tube Yarn—4.67 lb pkg.
9/2	1.51	1.92	.19
9.25/2	1.23	1.56	.16
10.5/2	1.02	1.30	.13
12.5/2	.78	.99	.10
13.5/2	.70	.89	.09
15/2	.62	.79	.08
17/2	.48	.61	.06
8/3	2.52	3.28	.22
10.5/3	2.04	2.65	.18
12.5/3	1.58	2.06	.14
13.5/3	1.30	1.68	.12
15/4	1.83	2.38	.12
20/4	1.15	1.50	.08
9.25/5	4.04	5.25	.22
10.5/4	3.78	4.93	.21



TIME CHECK SUMMARY SHEET. A summary of the time check data is recorded on this form. Again, this information is of no concern to supervisors. Its use is confined to time study department.



JOB LOAD SHEET. In some mills, final results of time studies are recorded in this manner and given to supervisors. Where variables exist, information is insufficient. At Tallassee this form is not considered adequate for supervisors.

the eight hours, he will look down the chart for doffs, then across the chart under creels, and he will know how many operatives to use. The column marked "Doffers Needed" will tell him how many doffers to use.

All of our machine loads are based on 420 minutes occupied time per day. To balance, if the chart calls for under 3.50 operatives, we use only three; if it calls for over 3.50 we use four, combining, of course, the doffers and the creelers for a total number of operatives required.

We find that by putting our facts in a form easily understood and used, we hold our labor to a minimum, and our employees are better satisfied with their jobs.

Panel Discussion on Gouts

Staff Report

AN INTERESTING and practical meeting of the South Carolina Division, Southern Textile Association, was held at Clemson College on Nov. 4. The meeting combined a competent summary of recent research activities at Clemson, presented by Dean Hugh M. Brown, with an informative and practical panel discussion on the causes of gouts, introduced by a thoughtful paper on that subject by L. M. Howell, Howell-Wilson Company. J. C. Godfrey, supt., Calhoun Mills, Calhoun Falls, S. C., planned the program and presided over it as chairman of the South Carolina Division.

Research at Clemson. Dean Brown devoted the greater part of his time as speaker to a discussion and demonstration of recent research and development work of the Textile Department of Clemson. He first demonstrated a hand tensiometer. This instrument can be put on yarn at any convenient point and set with the thumb while still on the yarn.

Fiber Strength Tester. Dr. Brown also commented on a new fiber tensile strength tester which, he says, offers a number of advantages over present tester. The machine shows a considerable improvement in coefficient of variation in a test, and it can be easily calibrated.

Clemson has also been doing considerable work, as has the University of Tennessee (See "Cotton Maturity Gauged," P. 73, TEXTILE INDUSTRIES, Nov. 1950) on the measurement of fineness of cotton by means of air flow.

Loom Let-Off. Clemson has also been experimenting with the elimination of the constant tension let-off on looms. It has been found that a constant rate of let-off produces, in the experiments, a cloth that is in some ways better and in no ways worse than cloth produced with a standard let-off motion. A loom manufacturer is now making some looms which will have no tension let-off but will feed at a constant rate. These looms will be mill tested to determine the practical results of this study.

Dean Brown also described a new and exceedingly narrow, thumb and finger temple which

SOURCES OF GOUTS

1. Clearer waste from top and bottom clearers picked up by sliver at drawing.
2. Loose fly brushed or blown down from overhead into the sliver at the back of drawing or at the slubber.
3. Accumulated fly at trumpets or drawing heads.
4. Tags of loose fly formed on the edge of the roving cans at the back of drawing.
5. Clearer waste from flat clearers at spinning.
6. Loose fly which has settled on full bobbins of roving. This does not apply to mills with traveling cleaners.
7. Momentary stopping of the scavenger roll by the spinner in putting up an end.
8. Waste fly picked up by a running end when cleaning the scavenger roll.
9. Scavenger roll waste picked up by the running end when the roll is cleaned.
10. Use of compressed air for cleaning in the spinning room, both on frames and overhead.
11. Piecing-in full bobbins of roving in the creel by the spinner.

DISCUSSION PANEL AT STA. Around the table, left to right: J. B. Templeton, supt., Poinsett Mills; W. F. Howard, supt., Pacific Mills (Lyman); E. L. Cantrell, supt., Inman Mills; Newton G. Hardie, plant manager, Chicopee Manufacturing Co. (Walhalla); Joseph L. Delany, supt., Joanna Cotton Mills Co.; Furman Burton, supt., Pendleton Manufacturing Co.; C. A. Gibson, president, Calhoun Mills and F. W. Poe Manufacturing Co., panel leader. Mr. Cantrell was elected chairman of Weaving Division.

may be used to hold cloth which would be damaged by any other type of temple. This, too, is now to be manufactured commercially.

Another field in which Clemson has done work is in finding a way to insert twist, in spinning, all the way up to the bite of the roll. This is the same idea developed by Hegemax in Switzerland. With the Clemson system, a false twist is inserted between the yarn and the bite of the roll. This strengthens the yarn in that area and makes possible the use of higher spinning speeds or fewer ends down or both.

Gouts. L. M. Howell listed for the meeting eleven major sources of gouts as determined from tests (see box on page 103).

Of the causes listed, the greatest number of gouts are caused by clearer waste picked up by the sliver at some stage of drawing or at the slubber. Also, many of these gouts are of such a character that none of the yarn cleaning devices is sensitive enough to remove them. Mr. Howell said that in a test he had injected a piece of dyed clearer waste into the drawing rolls and had followed it through to the yarn. It produced 128 defects, some so small they would have been taken for thick places in the yarn if they had not been dyed. Similar tests also indicated that current [illegible]ed yarn cleaners are only [illegible]0% to 20% efficient [illegible] removal of such defects.

[illegible] and comparing [illegible] revolving clearers, Mr. Howell pointed out that while revolving clearers do not keep top rolls as clean and have a tendency to cause more lapping up, it seems that they do make fewer gouts than the flat type clearer.

Compressed air for cleaning the spinning room is, according to Mr. Howell, a necessary evil, but there seems little doubt that it is the cause of many gouts. He suggested the cleaning of frames with less than full air pressure.

Panel Discussion. C. A. Gibson, president of Calhoun Mills and the F. W. Poe Manufacturing Co., took over the meeting and appointed a panel of mill men to further discuss the cause and elimination of gouts.

This panel first took up the question of the best type of clearer and the frequency of cleaning. The mills represented by this panel were all using flat clearers except for some experimental work being done at one mill on a new type clearer with an eccentric drive. One mill was using a new nylon pile fabric for clearer cloth with very good results. As to frequency of cleaning, it was agreed that once every four hours to once per shift was about right, depending on the cotton used.

The panel then discussed methods of teaching spinners to piece-up properly. At one mill good results have been accomplished by taking the gouts and defects caught in the spoolers and placing them on a board and showing them to the spinners. Showing them the flaws resulting from poor piecing-up has helped cut down the number of poor piece-ups. Another mill was mentioned in which samples are taken of piece-ups from every employee in the department and these are displayed on a board above the names of the persons making them.

It developed during a discussion of overhead cleaning that one mill has been able to reduce gouts about 50% by using overhead cleaning and cutting out the use of compressed air in the spinning room. Spindles and idler pulleys are cleaned with a stiff brush and a picker. This is slower than compressed air, but the results have made it worth the extra time.

Another point developed in the discussion was:

The speed at which a roll is buffed has a great deal to do with whether the roll will eyebrow.

Picker Lap Tests

---an effective quality control device

Picker lap tests can be made to obtain an abundance of useful information, provided the technician does the testing accurately.

By EARL OLSEN

FEW mill men realize the importance of giving their opening and picking equipment the attention it deserves, and very often picker control is entirely neglected. In fact, some mills do not test picker laps. An abundance of information can be determined from a simple and inexpensive lap test.

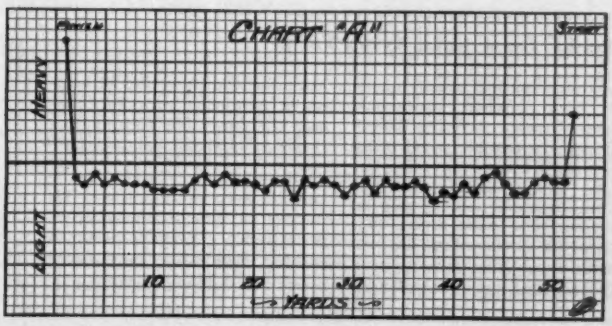
Quality control at the picker is necessary because the picking operation is one of the most important phases of processing. It is in the early stages of the manufacturing operations, and the significance of control at this point may be emphasized by noting the few doublings and high drafts which are now in common use. Furthermore the picker has tremendous productivity when compared with other textile machines. Producing processed stock at three hundred or more pounds per hour, the picker is a machine which certainly should deserve some attention.

The picker produces a lap which may be tested conveniently. Lap characteristics are often carried through to the finished product; therefore everything possible should be done to eliminate or prevent irregularities at this stage of manufacturing.

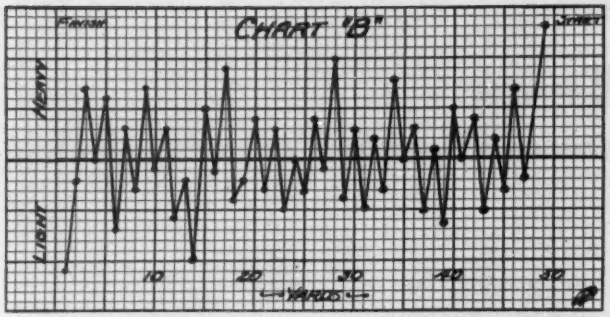
Test Procedure. In making one type of lap test the laboratory technician informs the picker operator that a lap is to be tested from a specific machine. The overseer already knows the plan because the picker has been selected according to a predetermined schedule. The technician does not take the first lap doffed from the picker. A lap which was completed while the technician observes is selected for the test. As the test lap is being processed, the technician notes the feeding time and the blending reserve stops. If a two-speed blending reserve is used, the time on the high speed pulley is recorded. Later the time for feeding and time for stops will be calculated.

Overseers usually know the importance of feeding the stock evenly, and from the technician's observations he may institute corrective measures if uneven feeding is noted. The tester makes a record of the cone belt position to indicate whether it is on center, slow, or fast position, and this information provides another clue to the overseer for use in obtaining efficient picker operation.

After the test lap has been weighed, a record should be made of the weight. The next step in our procedure is to place the lap on a Saco-Lowell lap meter. Using one yard lengths of the lap, the technician weighs and plots the variations and records other factors including appearance of the lap, distribution of cotton, opening, cleanliness, and condition of selvages. The lap stick is weighed so that the actual lap weight can be compared with the calculated figure. The lap weight figures provide a



A GOOD LAP. This record of an actual lap check shows that the lap tested was good. The evener motion was operating properly and alternate yards are slightly heavy and light, making a good average. The feed is apparently in good adjustment with little variation. The first and last yards are "off" average, and if this is a regular characteristic of the pickers, the first and final yards of each lap should be discarded at the cards.

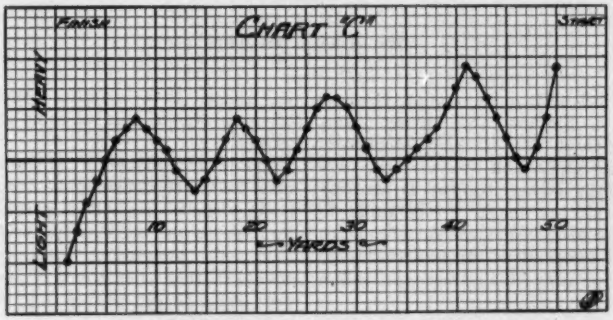


YARD WEIGHTS VARY. An excellent example of an excessively sensitive evener motion is indicated on this chart. The extreme sensitivity of the evener motion caused the individual yard weights to vary radically; first light; then heavy. Each change is too great, and the evener should be adjusted to a less sensitive setting.

check on the tester, and when the variation is too great, another test should be made.

The test data are recorded on a standard lap test form (designed to meet mill requirements) and the information is presented to the overseer. The form shows the average yard weight and the amount of individual yard weight variation. The average is easily obtained and the per cent standard deviation figure indicates the "scatter" of the individual weights.

The test provides other information which may be obtained by examining the graph which has been plotted by the technician. The graph contains many clues which reveal many details about actual performance of the picker. The characteristics of each graph have their own meaning, and the overseer may learn much more about picker performance as he becomes better acquainted with a variety of test results prepared in chart form.



LAZY EVENER MOTION; BAD FEED. The information shown on Chart "C" may be contrasted with that shown on Chart "B." In this instance the evener motion is so lazy or sluggish that each correction is insufficient to produce the desired results before the weights are too far out of control. Further examination of this chart also reveals that weights at the start of the lap are much heavier than those at the finish, indicating that the feed mechanism needs to be checked.

By using the test charts the overseer may determine the number of yards per lap, the amount of waste reported by the tester, and the condition of the brake mechanism is indicated.

Picker lap tests can be made to contain an abundance of useful information, provided the technician does the testing conscientiously. All of the information recorded should be obtained through accurate and unbiased observations. Personnel engaged in testing should be carefully instructed to insure correct and consistent procedure.

Through the use of accurate tests the overseer may learn more about control, and he will learn to interpret plotted and recorded data. Possibly various items on the check list may be changed or eliminated, according to individual needs, but when the test forms are finished, the information will be available in useful form so the overseer can efficiently control the pickers.

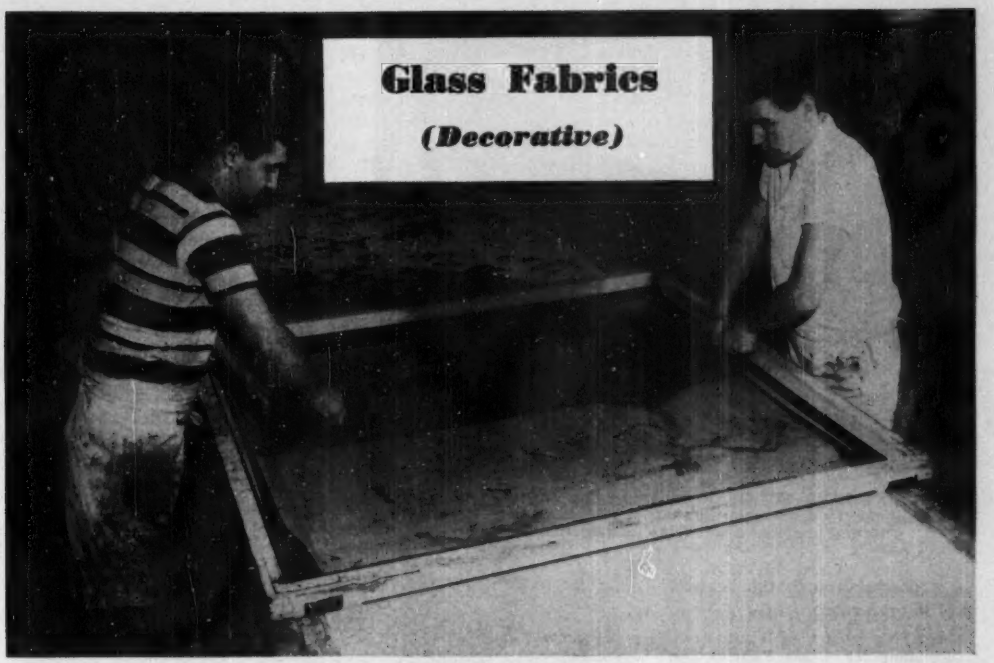
Knitting Socks from Spun Nylon Yarns

The tendency of socks made from spun nylon yarns to pill is often greater than that of socks made from other fibers; this may be decreased by using yarns which have sufficient twist to anchor the fibers in the yarn core, according to Du Pont's nylon technical service.

Socks knit from plied yarn with a balanced twist exhibit better shape retention and usually maintain their original appearance longer. Greater covering power and loft are possible when using yarns made from crimp-set nylon staple, though slightly different knitting machine settings may be necessary; also more severe conditions for preboarding are required.

Backwinding the cones of yarn just prior to knitting may be helpful in improving yarn loft; running the yarn over knitting wax will help knitting performance.

Use minimum yarn tensions in knitting; keep machines clean; variations in humidity may affect performance. If stains occur in knitting, they should be removed before heat-setting or boarding.



SCREEN PRINTING glass fabrics at Griswold Textile Company, Westerly, R. I.

Dyeing, Printing, and Finishing

By R. F. CAROSELLI
Project Manager
Textile Research & Development Laboratory
Owens-Corning Fiberglas Corp.
Ashton, R. I.

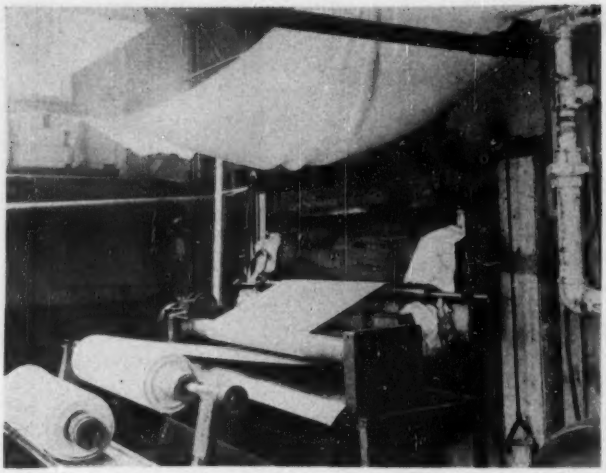
WITH THE development of the Coronizing process, the Textile Research & Development Laboratory of the Owens-Corning Fiberglas Corporation has lifted the role of decorative glass fabrics from that of a fire safety measure to that of a textile of distinctive beauty, serviceability, and performance. Many of the qualities that have long been sought in older, earlier established fibers in this field, are now to be found in glass curtain, casement, and drapery materials woven of Fiberglas yarns. Here is one fabric in which all the following properties can be found:

1. It will not burn.
2. It resists soil.
3. It's easy to clean.
4. It requires no ironing.
5. It will not shrink.
6. It will not rot.
7. It drapes beautifully.
8. It is water repellent.
9. It resists fading in sunlight.
10. It is not harmed by the atmosphere.

What makes Coronizing of particular interest to dyers and finishers is that, though the process itself is a chemical and physical treatment applicable only to glass, still it is applicable by methods familiar to most finishers and dyers.

Coronizing Process. Coronizing is a two-step treatment. It consists of the heat-setting of a glass fabric and a subsequent resin binder dyeing or finishing operation. The heat-setting of glass fibers involves more than mere permanent crimping. It produces a soft fabric and a limp, crimped fiber.

This heat-setting portion of Coronizing is a definitely established process. The optimum time-temperature relationship has been established for continuous processing of fabric. Consideration has been given to the organic size with which the glass fibers are coated prior to weaving. This material, of course, burns off at the high temperature, and in the heat-set oven design steps have been taken for the removal of soot and other products of combustion, which might otherwise discolor the fabric



ENTERING HEAT-SET OVEN. the only extraneous piece of equipment needed by commercial finishers to process glass fabrics. Heat-setting produces a soft fabric and a crimped fiber.

as it passes through the heat-set muffle or furnace.

Finishes for Glass Fabric. The laboratory at Owens-Corning has run the gamut of commercially available resins, waxes, oils, laticies, and finishes in seeking the proper treatment for heat-set glass fabrics. It has been found that a vast majority of these are applicable, but each, of course, contributes its own peculiar characteristics. The search then, centered upon finding the finish or group of finishes that would give those characteristics most desired by the decorative fabric trade.

Glass itself is incombustible. As much as possible, it was decided to conserve this outstanding property in the finished fabric. All materials which would sustain flame when present in the amounts needed to properly finish a glass fabric were thus ruled out.

Heat-set glass fabrics as they leave the heat-set oven are exceptionally wrinkle-resistant. This meant that a fabric which would never require ironing was a possibility. Every compound seemed to retard wrinkle recovery somewhat. There were some, however, whose retarding effect was barely perceptible. These were among those chosen.

Bare glass has low abrasion resistance. Some materials were found to improve the resistance more than others. A few brought the fabric to the point where wearing qualities were superior. These compounds were also in the running.

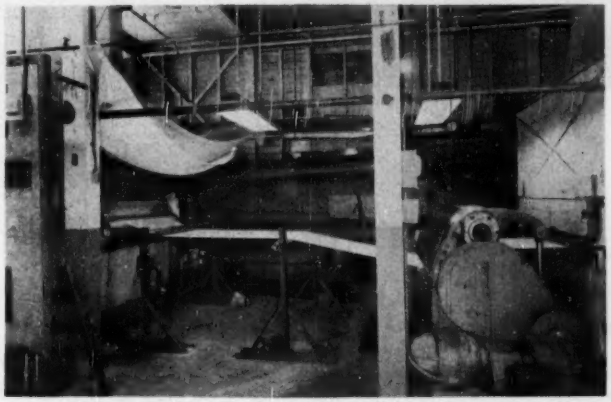
Glass fibers are slippery. Finishes that cut down on weave slippage were also to be found on the preferred list.

A decorative fabric must of necessity be colored, both dyed and printed. Any material which was not then compatible with available dyestuffs was also automatically eliminated.

A decorative fabric must be easily cleaned, either by dry cleaning or laundering, or preferably both. This quality made still more compounds impractical.

Finally, the fabric in hand must be such that it can be produced practicably and economically by known, standard means. The finishes ultimately selected meet all the aforementioned requisites, and they can be produced without any great deviation from standard methods by any finisher, dyer, or printer equipped to do resin-pigment type of dyeing on fabrics of earlier-established fibers.

The search outlined has resulted in decorative fabrics of market acceptance, especially marquisettes woven of Fiberglas yarns—curtains which can be quickly washed, rinsed, and rehung to dry without need for ironing, stretching, or starching. The product is one that any reputable finisher can handle; the only extraneous piece of equipment is the heat-set oven. At present Owens-Corning is doing most of the heat-setting, but the oven involved is simple and could easily be operated by finishers.



RESIN-PIGMENT PAD APPLICATION. Glass fabric is shown leaving the heat-set oven, through pad application, and entering the drying oven. Glass will not stretch, cannot be pulled out beyond width at which it left the loom.

The Finishing Process. The glass marquisettes come to the finisher in the grey state. At this point

weave slippage is the problem. To overcome this the goods are padded through a dilute suspension of colloidal silica (such as Syton or Ludox) and then framed out to width and dried. All this is done in the customary manner now employed by finishers handling other types of curtain materials. The one great precaution with glass is to remember that it will not stretch, and, thus, that it cannot be pulled out beyond the width at which it has left the loom. This application of silica stops weave slippage and also insures a flat, unwrinkled fabric for the next step which is heat-setting.

In the heat-setting of the curtain material all organic sizing is, of course, removed, but the inorganic colloidal silica still remains on the fibers in an even more permanently attached state than before the heat.

Dyeing. After leaving this oven the fabric then passes into a dye-pad containing the necessary pigment for coloration and the binding resin. The particular compound finally decided upon was, in the case of marquisette curtain material, a stable latex which serves well as a binding resin. The fabric is then dried at a temperature of 325 F.

The latex, while providing excellent hand, abrasion protection, and wrinkle-resistance, does not, of itself have good wash-fastness. It has been found necessary to use an aftertreatment. This involves another padding and a drying at 250 F. This treatment also gives permanent water-repellency. Chemically, it is a stearato-chromic chloride and is applied from dilute water solution.

The piece dyeing of drapery and casement fabrics parallels the process outlined for the marquisettes, except for variations in pad pressures, resin concentrations, pick-ups, and drying times.

Screen Printing. In the production of a screen print on glass fabrics the first two steps of silica treatment and heat-setting are the same as described. Next step, however, is the screen printing itself. Here, another latex preparation is used. This is thickened with an alginate to the proper consistency of a printing paste. To this the paste pigment is added. Most of the water-dispersible pigments now on the market are found to be satisfactory. A sharp paddle is recommended in the printing operation, best work being produced when as little reduction as possible is laid on the surface of the goods.

After printing, a five-minute cure at 325 F is needed. This is followed by a second aftertreatment and a 15-minute cure at 250 F. The final step is a scouring in a warm soap solution in a conventional dye-beck, and a drying. A wrinkle-resistant, water-repellent, washable print of good hand and drape, which will not burn, and which never needs to be ironed, is the result.

Work now is progressing in the field of roller printing, and this soon should be ready for production. Here again the same materials and processes as outlined will be involved.

Preliminary Processing and Weaving

By MAX STEINER
Textile Technologist
Research & Development Laboratory
Owens-Corning Fiberglas Corp.
Ashton, R. I.

THE BASIC continuous glass filament, which goes into Fiberglas yarns used to weave decorative glass fabrics, has a diameter of about .00025 inch. By comparison with filament rayon this is approximately ½ denier on a yards-per-pound basis. Because of the higher specific gravity of glass yarn, it is approximately ⅓ denier on a diameter comparison. These facts must be considered in designing yarns and fabrics of glass.

Strands of 102 and 204 glass filaments are drawn in the forming process. The strand with 102 filaments is called No. 900 size and has a nominal yardage of 90,000 yards per pound. The strand with 204 filaments is called No. 450 size and has a nominal yardage of 45,000 yards per pound, or the equivalent of approximately 100 denier in yards per pound and 60 denier on a diameter basis. Strands with larger diameter filaments are

SHEER MARQUISETTES FOR CURTAINS (CONSTRUCTION, 40 x 40). SERVICE WEIGHT DRAPERY FABRIC FOR DYEING OR PRINTING (64 x 60). NOVELTY YARN DRAPERY FABRIC FOR DYEING OR PRINTING (72 x 22).

MORE COMMONLY USED FIBERGLAS YARNS

Popular Yarns for Curtain Fabrics

900 - 1/3 - 10 Z x 8.5 S nominal 28,000 yds/lb
450 - 2/2 - 15 Z x 13.2 S nominal 10,100 yds/lb

Popular Sizes for Casement and Drapery Fabrics

450 - 1/2 5 Z x 4.4 S nominal 22,000 yds/lb
450 - 1/3 5 Z x 4.4 S nominal 14,600 yds/lb
450 - 2/2 5 Z x 4.4 S nominal 11,000 yds/lb

POPULAR FIBERGLAS YARN FABRIC CONSTRUCTIONS FOR CURTAINS AND DRAPERIES

Sheer Marquisette curtain fabric
Fabric Count: 40 x 40
Warp yarn: 900-1/3-10Zx8.5S
Weight per square yard: 1.85 ozs.

Service Weight Marquisette curtain fabric
Fabric Count: 26 x 32
Warp and Fill yarn: 450-2/2-5Zx4.4S
Weight per square yard: 3.5 ozs.

Novelty Sheer Marquisette curtain fabric
Fabric Count: 64 x 60
Warp and Fill yarn: 450-1/3-5Zx4.4S
Fill yarn: Fiberglas Ratine yarn

Service Weight Drapery fabric, for plain dye or printing
Fabric Count: 64 x 60
Warp and Fill yarn: 450-2/2-5Zx4.4S
Weight per square yard: 6¾ ozs.

Medium Weight Drapery fabrics, for plain dye or printing
Fabric Count: 64 x 60
Warp and Fill yarn: 450-1/3-5Z x 4.4S
Weight per square yard: 5¼ ozs.

Fabric Count: 56 x 44
Warp and Fill yarn: 450-2/2-5Z x 4.4S
Weight per square yard: 5¾ ozs.

Novelty Yarn Drapery fabric for plain dye and printing
Fabric Count: 72 x 22
Warp yarn: 450-1/3-5Zx4.4S
Fill yarn: Fiberglas Ratine yarn
Weight per square yard: 6 ozs.

generally used for industrial fabrics.

Size Applied. A "binder" or size is applied during forming to bind the filaments together and to protect the bare glass during subsequent operations. The percentage of size, slight twist contraction, and necessary manufacturing tolerances lower the yards per pound a few per cent.

The filaments are actually extremely fine and highly flexible glass rods, having virtually no stretch so far as textile manufacturing is concerned. They do not absorb moisture; consequently Fiberglas yarns cannot be twist-set. As few as 2 or 3 turns per inch in the single yarn make it too lively for efficient handling in warping and weaving.

It is necessary to balance the yarn with two twisting operations. Generally, this is done through a slightly higher twist in the first operation, using "Z" twist and plying with "S" twist to balance the yarn. The yarn is built up to the desired size by twisting and plying two or more strands with the desired turns per inch, according to end use of fabric. Plied yarn is sold ready for warping and weaving without further treatments or sizing necessary.

Yarns and fabrics of glass require designing to conform to the nature of fibrous glass. This calls for close coordination between chemistry laboratory on dyeing and finishing, the yarn twisting and weaving mill, and the sales department. It has to be kept on a practical basis from a manufacturing standpoint at the lowest possible cost and highest performance for the end product.

Pilot Laboratory Work. Numerous yarn and fabric construction experiments are made at the Ashton, R. I., Textile Research & Development Laboratory of Owens-Corning Fiberglas Corporation. Basically new constructions are first woven in 6-inch widths, for preliminary Coronizing, dyeing, and finishing evaluation on laboratory equipment. Following this, the samples are tested. The most promising samples are then woven in commercial widths on a standard automatic loom in the laboratory and processed on production finishing equipment. The finished goods are made up into curtains or draperies and subjected to severe end use tests. From these tests, selected constructions are checked in a sizable pilot run under actual mill conditions, to determine the final manufacturing cost per yard. This includes costs of twisting, weaving, and finishing.

Precautions in Processing. The requirements for handling Fiberglas yarn on warping, quilling, and weaving equipment are basically as follows:

1. Processes correspond to handling of other fine filament yarns, requiring up-to-date equipment for best results.

2. The non-stretch characteristic of glass yarn makes it particularly important to produce warps with uniform tension, as there is no equalizing stretch left in the yarn once it is in the loom.

3. Smooth finishes on surfaces of guides, rods, heddles, and reeds are important to avoid abrading the yarn.

4. Clean equipment is necessary throughout, to produce stain-free yardage. This is particularly important when the fabric is to be used for decorative material, since Coronizing and finishing require clean fabric for best results.

5. For mills interested in weaving glass yarn, it is recommended a training period be held to give employees "the feel" of glass yarn. Technical assistance may be obtained by contacting Owens-Corning's Weaver Sales and Service Division, 16 East 56th Street, New York, N. Y.

Warping. The modern horizontal warper and creel with whirl or disc-type tension is particularly suited for warping of glass yarn for decorative or industrial fabrics. Warping is generally done with 400 to 600 ends per section or band, at a speed of 200 to 250 yards per minute. Risers or elevators should be accurately set acording to size of yarn used. Sections or bands must be joined accurately. When beaming down from the mill it is important to avoid build-up at the beam flanges. Sufficient tension must be applied to obtain a solid beam. Beam flanges must be smooth.

For large scale production, the warps can be made by direct

beaming for some constructions.

Weaving. The type of looms developed for weaving rayon and other filament yarns are recommended for weaving continuous filament Fiberglas yarns, such as Draper XK and XD and Crompton & Knowles S-5 and S-6. These looms are equipped with the larger take-up roll which should be covered with rubber, cork, or some comparable covering to prevent slipping of the cloth. Split or lease rods should have a smooth surface, such as found on a chrome-plated brass rod. Standard flat steel heddles with oval shaped eye are satisfactory, but stainless steel heddles are now recommended for longer life. Standard reeds with semi-oval and oval dents can be used, but stainless steel reeds are preferable for longer life and easier cleaning.

For the weaving of glass leno fabrics, it is recommended to use the inverted top and bottom doup steel heddles. This leno harness equipment is easier on the yarn and does not require the jumper motion. On lenos it is also preferable to use a finer reed and skip a dent to reduce air space and possible reed marks. Heddles should move freely on the harness frame and be evenly distributed.

To further ease strain on nonstretchable glass warp yarn, it is recommended to have the whip roll mounted on springs which is similar to a "knee action."

Full front center is recommended for harness time with as little power as possible on the pick motion.

For weaving continuous-filament glass yarn, a smooth surface covering of the race plate is best, such as felt for continuous yarns and metal for staple or combination yarns. Adhesive tape, gummed kraft paper or cellulose tape can be used to good advantage.

Dutcher temples with rubber rolls and post temples, also called "crowhops" or "smash eliminators," are recommended for fabrics which have a tendency to pull in at the selvage edge. The post temples have the function of easing the pressure of the filling on the outer selvage yarns.

WARPING IS MOST IMPORTANT. Uniform tension must be maintained to secure satisfactory weaving conditions. Build-up at beam flanges must be avoided.

Standard shuttles can be used and furring is recommended for continuous filament glass yarn.

Looms must be in first class condition, without lost motion in crank arms, drive shaft, and dobby head. The looms can be run fully automatic with speeds from 140 to 170 picks per minute, depending on yarn count and construction.

Quilling. Continuous-filament glass yarn can be wound on any type quiller used for other continuous-filament yarns, automatic types included.

Mill Humidity. A relative humidity of 68% to 70% is recommended. This is particularly desirable in mill preparatory departments such as warping and quilling, where yarns are packaged.

The most important operation, in fabricating Fiberglas yarns into fabrics and tapes, is warping. It is imperative that uniform tension is maintained throughout this operation to warrant satisfactory weaving conditions and quality.

Readers interested in additional data are referred to "Manufacturing Glass Fabrics," by James D. Nordahl; TEXTILE INDUSTRIES, May 1950, page 95. Reprints are not available.

Sheep Soon to be Friendless?

F. E. Masland, Jr., C. H. Masland & Sons, writes in a recent issue of his company's *The Shuttle*: "We feel that man-made fibers in carpets and rugs are here to stay . . . the proper fiber (chemifiber), used in the proper construction in proper proportions produces an improved fabric."

Mr. Masland goes on to say that "It has always been unfortunate that the carpet industry was tied to the back of a sheep. This is doubly unfortunate at a time when the sheep population is decreasing. It makes no sense in a day and age when man-made products are being generally accepted, not as substitutes but as replacements."

This is the first positive public statement made by a major carpet producer which claims the superiority of chemical fibers over wool as a raw material for floor coverings.

Vibration Damper for Ribbers

Staff Prepared

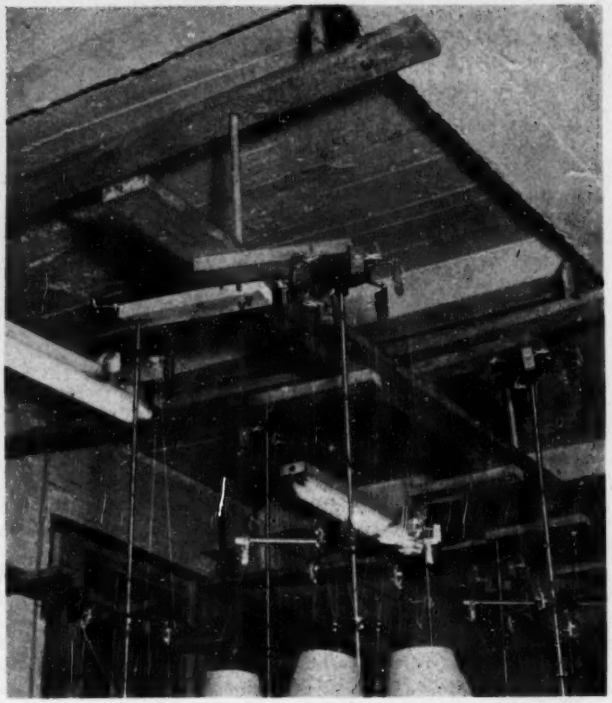
EXCLUSIVE

SMALL diameter ribbers are running at 20 per cent higher speeds at one knitting mill following the erection of supports for the tips of center rods on these machines.

Made from 2 x 4 lumber, the center rod supports are suspended from ceiling beams over the lines of knitting frames. The tips of center rods revolve within bearings inserted in the supports. Rods rotate axially true with the result that vibration is eliminated.

In the absence of vibration, higher speeds are possible and larger packages can be handled on the yarn stand. The addition of stop motion devices on the ends of center rods have no adverse effect on their stability.

Wear and tear, and needle replacement costs have been reduced. The number of seconds accruing from yarn snarls, caused by feed guides working around the center rod in the process of vibratory motion, has also been cut.



Stripping of Wool Dyes with Protection Against Chemical Damage

WOOL suffers a deterioration of physical properties when the sulphur linkages are extensively disrupted in either the main chain, cross linkages, or side chains during ordinary stripping. This undesirable phenomena can be avoided by stripping in the presence of ethylene dibromide emulsion, which replaces the original linkage.

From a Bureau of Standards wear tester, the following conclusions were evident:

1. Stripping with regular commercial process decreases wear life approximately 25%.

2. Stripping with ethylene dibromide shows no decrease in wear life. A prolongation of wear life is indicated.

Furthermore, the effectiveness of a regular strip from the color standpoint must be limited in order to minimize chemical damage.

Process Modifications. Almost any process modification can be employed after first protecting the wool with ethylene dibromide in connection with the use of sodium hydrosulfite. Following this step, other stripping agents can be applied. One method involves the further application of sodium hydrosulfite. Another uses basic zinc sulfoxylate formaldehyde which gives superior results on some chrome dyes. Normal zinc sulfoxylate has been found to work satisfactorily.

Economics and Equipment. A variety of dyehouse equipment can be used for protective stripping. Hussong and Franklin kettles, both stainless steel and wood with bronze fittings, have been used. Material cost varies from 2.5 to 4.0 cents per lb of wool depending on the particular process modification. Processing time in kettles runs 1 to 1½ hours. Stripped stock may be redyed immediately without moving to another kettle. The stock should be as oil-free as possible and should be washed to assure that the extractable oily content of the stock before stripping does not exceed 2%. Kettles can handle 35,- 40,000 lb per week.

Abstract of paper presented by E. A. Leonard and L. Beck of Alexander Smith & Sons Carpet Co. during the 1950 AATCC annual convention.

Textile Industries Presents

The Maintenance and Operation of

Cotton System Warping Equipment

as used with magazine type cone creels

UNTIL RECENT YEARS cotton system warping equipment has been relatively simple compared to other equipment in the textile mill. As a result, proper maintenance of these machines has been overlooked in many mills. In some cases, the persons responsible for maintenance considered the machines so simple that little or no maintenance was required; therefore, the machines suffered.

Every one agrees that the warping operation is important and that good slashing and good beaming can only be obtained through good warping. The fact that the warping operation and the machinery itself is relatively simple should not lull the operator or maintenance personnel into believing that the operation and equipment will take care of itself and that good results will naturally follow, regardless of the attention given the work or the machinery.

By JOHN C. BODANSKY
Cocker Machine & Foundry Co.

THE COST of warping is a very small item in the overall cost of manufacturing cloth or even manufacturing and delivering yarns. Despite the fact that the cost of warping is small, this operation can upset the entire production of the mill if the machines are not kept in good operating condition. Modern warpers are high speed machines and, like your automobile, will give trouble if not properly serviced.

Covering Drum on Warper. The oldest type cotton system warper now in use is the drum driven machine. In this machine, the section beam is actually revolved by frictional contact with the driving drum. This drum is constructed from a large steel tube, rough turned on the outside and properly balanced. The drum should always be covered, and the type of covering varies considerably. Strip card clothing is widely used as well as strip cork and felt.

The covering of the warper drum is very important in any warper, but is especially important in the drum driven machine. This covering should be spiralled on smoothly and should be put on with as much tension as possible so that it will lie smoothly. A good waterproof cement that will not be affected by humidity should be used. The cement should also be one that will form a good bond with metal. When recovering a warper drum, always be sure that the metal shell is clean and free from loose, dry cement.

Most drums for drum driven warpers are provided with several rows of wood pegs or plugs driven in holes around the ends of the drum. The covering may be fixed firmly to the edge of the drum by driving shoemaker's pegs through the covering into the wood plugs. It may be necessary to perforate the covering in order to do this; an ice-pick is ideal for the purpose.

Precaution for Filament Processing. It might be well to point out that some mills use drum driven warpers for synthetic continuous filament yarns. In this case, the machines must be operated at speeds far below those permissible on spun yarns in order to avoid slippage between the yarn and the driving drum. Any slippage at this point will damage continuous filament yarn even though it has considerable twist. The mill using drum driven warpers on filament yarns should be doubly careful about the drum covering because of the danger of damage to the yarn from a rough drum surface.

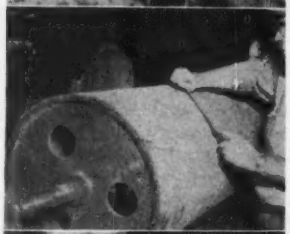
Spindle driven warpers which are designed primarily for continuous filament yarn are furnished with covered or uncovered presser rolls, according to the customer's wishes. If covered, the shell is generally made of an aluminum tube. If uncovered, the drum or cylinder, is made from a fiber or synthetic tube.

If the cover on an aluminum presser roll becomes damaged, it is best to return the roll to the factory for repair; however, should this be impossible then it can be recovered at the mill. When the covering is

Covering the Drum Drive and Presser Roll—

←1
The first job in covering a drive drum is to remove the old covering.

←2
After the worn cover is removed, the drum is cleaned of old glue; a wire brush is used.



←3
Put drum in lathe; give a final cleaning.

←4
The strip covering for the drum is fixed to one end of the drum by driving wooden shoemaker's pegs through the strip and into small holes in the drum.

←5
Cement is then applied to the drum, and the covering is wound on as the lathe is slowly turned. The last round of covering is again fastened with shoemaker's pegs.

6→
For felt covered presser rolls, first clean just as for drive drum; cover roll with glue and allow to dry. Again cover with glue as new felt is put on (while roll is in lathe).

7→
New core is pulled and evenly rolled on.

8→
Clamps are closed on the cover while glue is drying.

9→
After glue is dry, excess felt is trimmed to make a nice joint.

10→
When glue is thoroughly dry, roll is turned in lathe and ground to bring it to proper diameter. A good joint is scarcely visible after roll has been ground.

strip cork, the same procedure is used as in the case of the drum driven warper. Care must be used to select a cement which will adhere to aluminum.

Covering Drum with Felt. When sheet felt is used, a much longer process is necessary. First, the roll must be cleaned thoroughly. Then a coating of cement should be put on the drum and allowed to stand for about 24 hours or until the cement is tacky, but not completely hard and dry. Another band of cement about 2" wide should then be put across the face of the roll.

The sheet of felt should be clamped to the drum immediately at this point and allowed to stand about one-half to one hour, after which the felt may be slowly rolled on the shell while applying fresh cement. The clamps which secure the beginning of the sheet should remain fixed. When the final joint is made, both ends of the sheet of felt should be firmly clamped. The roll should then be allowed to dry for 48 hours.

One of the most frequent mistakes made in recovering any type of warper drum is in the length of time the cement is allowed to dry. This should never be less than 48 hours.

In recovering any warper drum, be sure and pick the proper thickness material since this presser roll or drum also controls the measuring equipment.

Fiber or synthetic rolls require no cover, and if they become damaged a new roll is necessary.

Lubrication. Bearings, of course, are an important item in any piece of machinery—and this includes the high speed warper. These machines operate at very high speeds, the newer models being capable of speeds up to 1000 yards per minute. For this reason, practically all moving parts are fitted with ball or roller bearings, whichever is best suited for the purpose.

Proper lubrication of the warper, whether drum driven or spindle driven, may mean the difference between continuous trouble-free operation or continuous breakdowns, resulting in upset of production schedules.

Unfortunately, no one can set down a lubrication schedule stating frequency of lubrication suitable for all mills. There are too many variable factors. Probably the best that can be said regarding lubrication is that all bearings should be sufficiently lubricated but not over-lubricated. In selecting the proper lubricant, consult any of the reputable oil companies; they can advise on the proper lubricant to use. A high temperature grease is not required for any of the bearings on the warper.

It might be well to point out that over-lubrication can very easily be a contributor to poor operation. Attempting to force too much grease in a ball bearing can easily dislodge the grease retainers. This will permit the grease to escape from the bearings, and it will be thrown onto the warp.

Grease escaping from the bearings can also be a contributing factor to under-lubrication. If the retainers become dislodged, the bearings will not retain sufficient grease for the high speed operation, and bearings will wear out or burn out prematurely.

On the drum driven type warper, the beam journals are carried in ball or roller bearings. These bearings have no grease fitting because of the danger of over-lubricating, which, at this particular point, can be dangerous in so far as cleanliness goes. Furthermore, these bearings cannot fit the beam journal snugly because of slight inaccuracies in beam journals; therefore, they cannot be equipped with retainers.

General practice in lubricating beam journals of drum driven warpers is to apply a small amount of grease to the journals of the beam before putting the bearings on these journals.

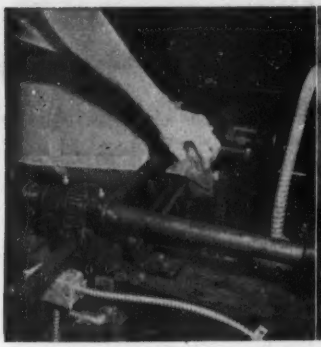
The presser rolls on spindle driven warpers are fitted with sealed bearings because the location of these bearings makes it difficult, if not impossible, to reach them with a grease gun. These bearings are pre-lubricated and sealed by

Highlights of Lubrication—

Beam journals should be carefully greased before beam is placed in warper. Demonstration is on an empty beam.

All warper pins, gears, and bearings should be kept lubricated by periodic applications of the proper lubricant.

Although a small part on the warper, it is highly important—the counter clock should be kept well lubricated.



Keep oil and grease off snubber linings.

A bent beam arm or a worn beam or bearing.

A worn or damaged drum shaft bearing is bad.

the manufacturer of the bearings.

No lubrication is required on the beam journals of one type of spindle driven warper since the entire driving heads and the beam turn as one unit.

The motor for the drum driven warper is usually a general purpose a-c motor. The older motors have sleeve bearings and an oil cup. Frequent filling of the oil cup will prevent bearing failure due to lack of lubrication. The later model motors have ball bearings. Lubrication instructions are generally stamped on a plate attached to the motors. This is also true of the d-c motors and motor generator sets used on spindle driven machines.

Don't Neglect Counter. All high speed warpers are equipped with high speed counter clocks. These are fitted with oil cups for lubrication and must not be overlooked. The oil cups are necessarily small and the shafts of the counters are small; therefore, frequent checks should be made to see that they are properly lubricated.

Keep Oil Off Snubber Linings. Most warpers of all types have snubbers. The purpose of snubbers is to reduce or smooth out vibrations due to section beams being slightly out of balance or out of round. Do not lubricate the snubber linings. It would be like lubricating the brake linings of your automobile. Of course, it is necessary to lubricate the pin which holds the snubber bar to frame of the machine; also any other pins or joints for which oil holes have been provided. The snubber linings should be inspected occasionally for wear.

Doffing Mechanism. Special attention should be paid to lubrication of the doffing mechanism. Since this mechanism is not in continuous operation, there is a tendency to feel that it does not need lubrication. Failure to lubricate the gears or oil the joints or sleeve bearings of this mechanism will not only cause undue wear but will make the job of doffing more difficult.

Section beams, in order to operate properly in the slasher or rebeamer, must be round, firm, and of the same diameter across the whole face of the beam.

Out of Round Warps. Any good, new warper with reasonably good section beams will make a round warp. Warps that are not round can usually be traced to the beam itself. The beam journals may have become bent through abuse or the beam may be out of balance. Continued use of a beam with a bent journal or a beam out of balance, may set up vibrations in the warper sufficient to loosen the machine and damage bearings. An out of balance beam can pound a drum driven warper so hard that the drum shaft bearings will be severely damaged in a very short time. If this happens, the machine will become almost entirely inoperable and will build out of round warps.

Bad Beam Journals Affect Entire Warper. Crooked beam journals will cause excessive wear on the beam arm bearings of drum driven machines. They can also cause the lighter model spindle driven machines to loosen up at various places.

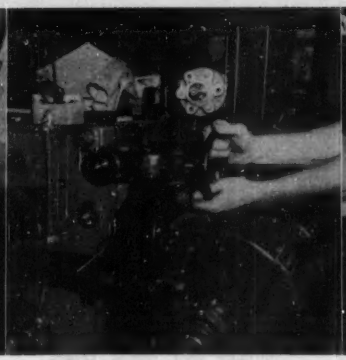
Uneven Warp Diameter. A difference in the diameter of the finished warp from one end of the beam to the other can always be traced to misalignment of some part of the warper head.

On the drum driven warper, the misalignment will generally be found between the axis of the beam arm bearings and the drum. This can be caused by worn beam arm bearings, worn drum shaft bearings, or inaccuracy in the alignment of the beam arms.

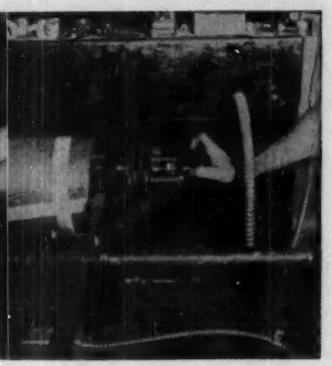
The inaccuracy in alignment of the beam arms may be corrected by manipulation of the adjusting screws provided for this purpose. These adjusting screws are under one link of the doffing arms. When the beam is in operating position, they rest against one of the steel stiffening girts. After moving these adjusting screws, be sure to tighten the lock or jam nuts.

On the spindle driven warper, any misalignment will be found between the presser roll and the axis of the driving spindles. The bore of the driving spindles may be worn by bad beam journals, which will also cause the machine to make warps with uneven diameters. Misalignment between

That bore of driving spindles is accurate.



That locking devices are okeh before starting.



That pressure on both snubbers is equal.

the axis of the driving spindles and the presser roll can also be caused by worn bearings on either the presser roll or on the main driving spindles.

Carelessness in putting the empty beam into operation can also cause the machine to build uneven beams. The operator should be sure that all beam locking devices are firmly tightened and equal pressure is being exerted by both snubbers, and that the beam is raised all the way to the operating position. Looseness in other parts of the machines will also result in improperly wound beams.

Care of Speed Control Mechanism. Accurate speed control is a necessity in high speed warping because speed has considerable influence on tension. This is no problem on the drum driven warper because the surface speed and the rpm of the driving drum remain constant, regardless of the beam diameter. Changes of yarn speed for various types of yarn may be accomplished by changing the motor sheave or by means of variable speed transmission introduced between the motor sheave and the first drive shaft of the warper.

Without some kind of automatic speed control on a spindle driven warper, the yarn speed would increase with the beam diameter, resulting in a change of tension as the warp increases in diameter. Since attempted speed changes occur slowly and the difference in speed between the input shafts is never great, it is necessary that the gears be well lubricated. The differential gearing is housed in a cast iron box which is provided with an oil level plug. A good grade of motor oil (about No. 30) should be used and the level kept up to the level plug. Although it will not be necessary to add oil to the gear box often, it should be inspected every time the machine is greased. Connecting drives to the differential should be lubricated, but not overlubricated. Never lubricate the rheostat.

In order to provide smooth, gradual, and controlled acceleration of the warper when starting, the pilot motor direction is reversed every time the machine stops. This drives the rheostat to the slow speed position against a limit switch and a stop. In order to prevent damage to the rheostat or limit switch because of overtravel, the rheostat shaft is fitted with a leather friction. Pressure on this friction is adjusted by a spring. This spring should be kept just tight enough to move the rheostat. Never put belt dressing on the leather friction as this may cause the friction to lock and do serious damage.

Inasmuch as the spindle driven warper is driven by a direct current motor, a motor generator is provided for converting from alternating current to direct current. This equipment requires a little more care than a plain a-c motor. The first and most important thing is to keep the motor-generator and d-c motor clean. This is especially important because of the commutators on the d-c motor and the d-c generator. These commutators must be kept clean. Dirty commutators will interfere with the efficiency of operation of the equipment and may result in sparking, which can be dangerous.

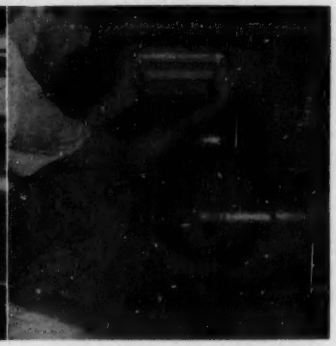
Keep Lint Off Motor. Never permit lint or waste to accumulate in the d-c motor or the generator because this will cause over-heating which can also be dangerous. The question has often been asked as to why the ends of the motor or generator cannot be closed up so lint or waste cannot enter. This is impractical, if not impossible, due to the necessity of cooling the equipment. The motor is often run at relatively low speeds and as a consequence, free passage of air for cooling is a necessity. Although the generator runs at a relatively higher speed, it must also have free passage of air.

There is likely to be a large accumulation of lint in a spun rayon or cotton plant, so it is advisable to blow out the motor and generator as frequently as possible. Always be sure that no water or oil is in the air line before turning the air on the motors.

Inspect Control Equipment. While still on the subject of the electrical equipment, I would like to point out that frequent inspection of control equipment, such as relays and contactors, is advisable. These controls, whether mounted

Motor and motor generator (free of dust and lint).

Contacts and relays (keep clean and bright).



Dynamic breaking circuit (needs inspection and care).

in the machine or on the wall, should be kept free of lint. Lint around electrical controls is dangerous due to the ever-present possibility of arcing of the contactors. The contacts themselves should be regularly inspected and if they appear burned or pitted, they should be replaced.

Stopping Action. We now come to another important feature of any warper, and this is stopping. It is highly essential that the warper stop quickly in order to prevent lost ends.

Machines with a-c motor drives only are generally equipped with magnetic brakes. Proper adjustment of these brakes and good brake linings are a must for proper stopping. With the machine stopped and the current off the motor, the solenoid and operating lever of the brake may be depressed by hand and an inspection made to determine if both brake shoes clear the brake wheel or pulley by the same amount. When the solenoid plunger and lever are released, both brake shoes should grip the brake wheel at the same time. Adjustments are provided to insure proper gripping and releasing of the brake wheel.

While making this inspection, also see that the solenoid plunger goes all the way down when the brake releases. Lint at the bottom of the solenoid or foreign matter under the shoulder of the plunger will prevent the plunger from going all the way to the bottom of the solenoid. This may cause the brake coils to burn up.

Machines driven by d-c motors are generally equipped with dynamic as well as magnetic braking. When the stop motion goes into operation, the d-c motor is instantly disconnected from the generator and if no brakes were applied, it would coast and become a generator — actually generating voltage. Dynamic braking consists of a short circuit placed upon the motor the instant it is disconnected from the main generator. This short circuit chokes down the motor which has now become a generator. Some resistance is introduced into the short circuit because it is not wise to have a dead short across the motor. This resistance is usually adjustable so that the degree of braking action may be adjusted.

If the d-c driven warper does not stop quickly enough, check the dynamic braking circuit. A loose connection in this circuit will lessen or kill entirely the effect of the dynamic brake. Even though the dynamic brake is very effective, the magnetic brake should not be neglected and should be kept in as good condition as on an a-c driven warper.

The Combs. Most warpers are equipped with two combs; one, a spring expansion comb, and the other, a positive expansion comb. The spring expansion, or entering comb, is used primarily to guide the yarn to the front or positive expansion.

Some years ago all combs were made with plain steel dent wires. Now, practically all combs have hard chrome plated dent wires. This is a great improvement in that damage to the yarn from rust is eliminated and the life of the dent wires is considerably lengthened.

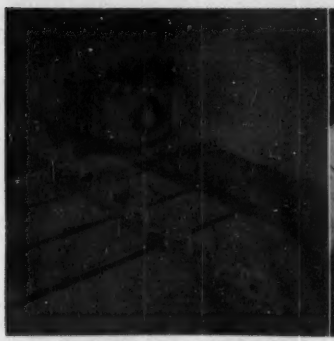
Since interlocking comb sections on positive combs are used almost exclusively, trouble from gaps between sections is practically eliminated. About the only trouble that can be encountered will arise from bent dent wires, and these can be easily seen.

Creel Can Make Performance Good or Bad. The creel is another part of the warping equipment which, due to its simplicity, may be neglected. In fact, seemingly minor things in the creel are often neglected because they seem unimportant. These minor things can mean the difference between poor warping and excellent warping.

The cone holder or package holder is a very simple part, but a very important part, of the creel. The cone holder must line up perfectly with the entering eye of the tension. If it does not line up, jumpy, irregular tension will result. Poor alignment may also result in broken ends.

The cone holders should be so arranged that removal of the empty package and replacement with a full package can be accomplished with ease and a minimum amount

Guard Against These—



Bent wires or rust on the comb.

Cone holders on creel out of line.

Using the cone holder for ladder.

of time. Although speed of creeling is important, care should be exercised in tying transfer knots. After reloading a package holder, it should be returned to its proper operating position so that it will be in line with the tension. Do not use the cone holders for step ladders; they are not strong enough. Empty cone holders should not be left protruding into loading alleys where they can be hit by yarn trucks or boxes.

Tensions Important. The tensions are the heart of the creel. The dead weight washer tension is the simplest and most widely used. Regardless of the simplicity of the tension, it should be treated with care. It must be kept clean, not only to prevent damage to the yarn but to insure proper tension on the ends. Lint buttons can collect under the washers, causing loose ends. Some yarns will deposit oil on the washers which will also cause slack ends.

Practically all tension washers are now hardened, ground, and hard chrome plated. They present a very smooth, flat surface to the yarn and are highly resistant to abrasion. Some yarns, however, are very abrasive and in time will wear grooves in the washers. When running this type yarn it is wise to inspect the tension washers occasionally. The same holds true for tension posts.

Porcelain or glass guide eyes lead the yarn to the stop motion—generally placed at the front of the creel. Care should be taken to see that these eyes do not become cracked or otherwise damaged.

Stop Motion. The stop motion at the front of the creel is always fitted with some type of drop wire. The eyes through which the yarn passes should be kept in good condition whether they are porcelain, glass, or chrome plate. They must not be permitted to become rough or grooved because they will damage the yarn or cause breaks.

Regardless of the type drop wire used, the stop motion must be kept clean, since all stop motions depend on an electrical contact. If that contact cannot be made because of lint, waste, or any other foreign matter, the warper will not stop. The most promising thing in the direction of overcoming troubles due to waste or dirt on the stop motion, seems to be the electronic relay. This relay will operate even though the drop wire does not make a positive contact with the electrode bar. Even with this relay, it is not wise to permit a large amount of lint or waste to accumulate on the stop motion.

Cleaning Equipment. Warpers and creels running single spun yarn should be equipped with some type of lint removal equipment. This generally consists of several 16-in. vertically mounted fans. There should be at least one of these fans for every eight vertical rows of tensions. One fan should be mounted close to the electric stop motion and one should be mounted over the combs of the warper.

Threading. Proper threading of the creel is important—and threading starts at the tension. Each tension must be threaded exactly the same way; otherwise, tension on all the warp ends will not be the same even though all weight washers are exactly the same. After leaving the tension, all ends must be threaded through the proper guide eyes all the way to the stop motion. Ends must not be crossed even though it appears that the warp will run satisfactorily. A crossed end is a potential break and will definitely cause damage to continuous filament yarn.

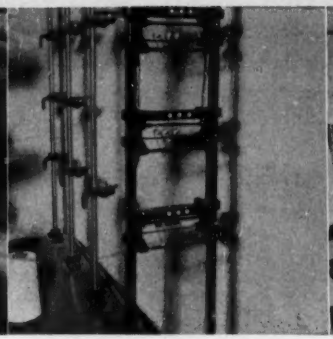
After the yarn leaves the stop motion, each end must be laid in the proper dent of the entering comb and in the proper dent of the front positive comb. No ends should be crossed over their neighbors.

Great care should be exercised in repairing broken ends. It is much better to put the end up correctly than to stop the machine later to straighten out a crossed end or have another break due to a crossed end.

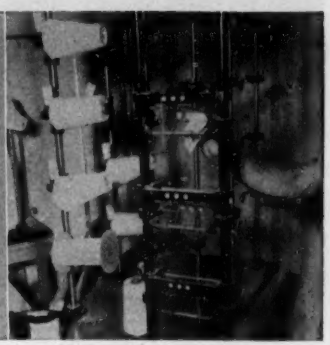
One always hears a lot of talk about increased warping speed. Of course, it is always desirable to increase the warping speed to the highest possible point, but speed should not be increased at the expense of quality. This is especially true for continuous filament yarns where quality is first. It might be

Keep Clean and Polished—

The tension washers (lint buttons and oil are taboo).



Glass eyes and stop motion eyes (replace broken ones).



The stop motion (keep it free from lint).

well to point out here that some continuous filament yarns will operate better at high speeds than they will at low speeds. This is because the higher speed will cause the yarn to balloon clear of the package, whereas at the low speed, the yarn may tend to drag on the top side of the package.

In closing, the two most important words in warping should be emphasized: Care and Cleanliness. Care will increase efficiency and, consequently, production. Cleanliness is a must for good work.

TO OBTAIN REPRINTS OF THIS ARTICLE

So long as the supply lasts, reprints of this article will be available. Address request to the Editor, "Textile Industries," 806 Peachtree St., N. E., Atlanta 5, Georgia.

DATA ARE TRANSCRIBED from the original order onto an "Order and Manufacturing Record" in the packing department, which serves as a main control point.

THE OFFICE STAFF is organized to regulate production. Here, the bulk of administration required to service orders is performed with a minimum of confusion.

Production Control

assures flexibility for knitted outerwear plant

Shipping delays are systematically eliminated by thorough planning. Master schedule rationalizes knitted outerwear manufacturing.

THE MANAGEMENT of Bamberger, Reinthal Company had been confronted with a complex problem in the manufacture of knitted outerwear—how to control the production of a highly diversified line of sweaters, polo shirts, and headwear for boys, girls, men, and women on a wide assortment of knitting machinery which included Raschels, Links and Links, Jacquards, and Leightons among others.

The complicated interrelations of equipment and product required a finely balanced organization in order to assure a continuous flow of goods through the mill. The ideal system had to be simple and efficient. An intricate system of production control was undesirable because a bog down anywhere along the line could throw the entire mill out of kilt. Also, a disproportionate amount of personnel time consumed in paper work could turn out to be of no value.

The Cleveland mill did evolve an effective plan. It allows for flexibility at all levels of production and, at the same time, reliably and clearly transmits the necessary manufacturing instructions to operators in all departments.

By ROBERT REINTHAL

Production Supervisor
Bamberger, Reinthal Co.
Cleveland, Ohio

Production Control. Before scheduling any operation, several factors are carefully weighed:

1. Various batteries of similar machines.
2. Number of machines per battery.
3. Demand for output of a specific battery.
4. Volume of a style to be produced.
5. Delivery dates.
6. Status of raw material supply.

First, the knitting machinery is divided into two main groups; circular and Raschel. Each of these groups is further subdivided according to machine characteristics such as production rate, diameter, function, and location.

As a style is offered to the market, it is immediately related with other styles produced on identical knitting equipment. When orders

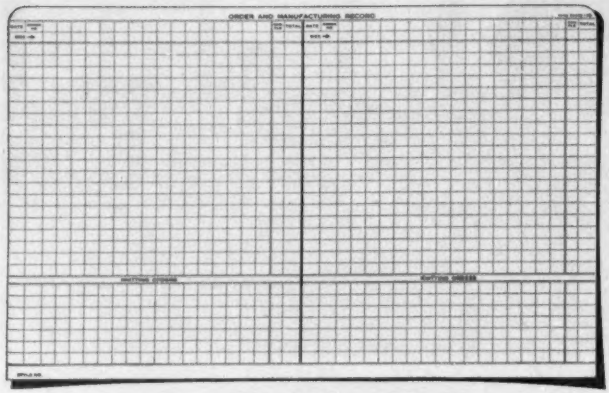


Fig. 1. Order and Manufacturing Record.

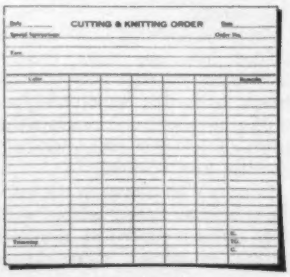
MASTER PRODUCTION SCHEDULE

CIRCULAR DEPARTMENT DATE

#	Jacquard		Leighton		Links		Brinton	
	Style	Quantity (doz)	Style	Quantity (doz)	Style	Quantity (doz)	Style	Quantity (doz)
1	6201	300	6506	100	6100	600	6911	400
2	6206	700	6509	400	6107	300	6826	600
3	6204	250	6511	800	6109	200	6830	300
4	6201	1000			6100	1000		
5					6110	200		
6					6115	500		
7					6120	700		
8					6100	800		
9								
10								
11								
12								

Fig. 2. Master Production Schedule as prepared during weekly conferences of planning and production personnel. Copies are distributed to Raschel and circular knitting departments where work orders are issued in compliance.

Fig. 3. Cutting and Knitting Order.



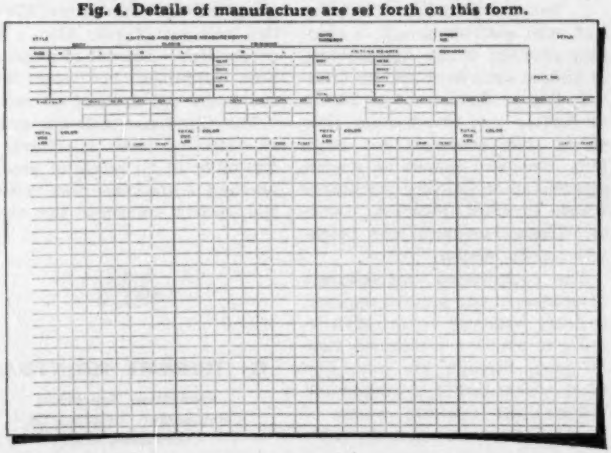
are received in the factory, they are entered on an "Order and Manufacturing Record" (see Fig. 1). Information on this card collates data on the quantity of a style ordered by a customer, the colors desired, and a date of delivery for the order. After entering several such orders on this card, a composite picture of mill commitments for the particular style is obtained.

When the majority of orders are in and entered for the styles to be produced by a specific group of knitting machines, the sequence for running the various styles is then determined. The same procedure is carried out for every battery of knitting machines. The end result is a master production schedule rationalizing production control (see Fig. 2).

The thinking and planning involved in drawing up the master schedule is cooperatively effected by mill executives at weekly meetings. Out of these periodic sessions come the detailed operational time tables for both the Raschel and circular knitting departments.

The actual sequence of knitting establishes the routing of orders through the factory. Schedules are discussed and revised by production and planning supervisors as the situation demands so that the versatile nature of the mill may be maintained at maximum proficiency. Thus, the master schedule is far from static. Major

Fig. 4. Details of manufacture are set forth on this form.



changes may be anticipated at short and frequent intervals, but nevertheless, the knitting program may be readjusted at a moment's notice.

Cutting and Knitting Order. The styles, quantities, and colors are ordered from the packing department by a "Cutting and Knitting Order" (see Fig. 3). At the packing department, the original orders were first entered on the "Order and Manufacturing Record." The orders are then transmitted to the production office which is the point of origin of an itemized separate cutting and knitting order which contains all the details of manufacture, such as measurements of sweaters to be knitted, yarn size, color, and weight checks (see Fig. 4).

Each knitting division has a central desk which serves as the command post. Here, styles are placed in work on the machines in accordance with instructions on the master schedule. Requisitions for yarn needed to fill orders also originate from these centralized control points. These requisitions are transmitted to the yarn department by the knitting divisions. In this manner, the two desks at the Raschel and circular knitting departments constitute the first actual production control point.

The second important control center is located at the cutting desk in the cutting department. A copy of all knitting orders is kept on file here so that the cutting department can keep tabs on the progress of orders in knitting (See Fig. 5). From this point the progress of the cloth through cutting, sewing, finishing, and pressing is regulated. The sequence of the actual cutting of various combinations of styles and colors is determined by coordinators at this desk, who then pass this information on to the cutting room supervisor.

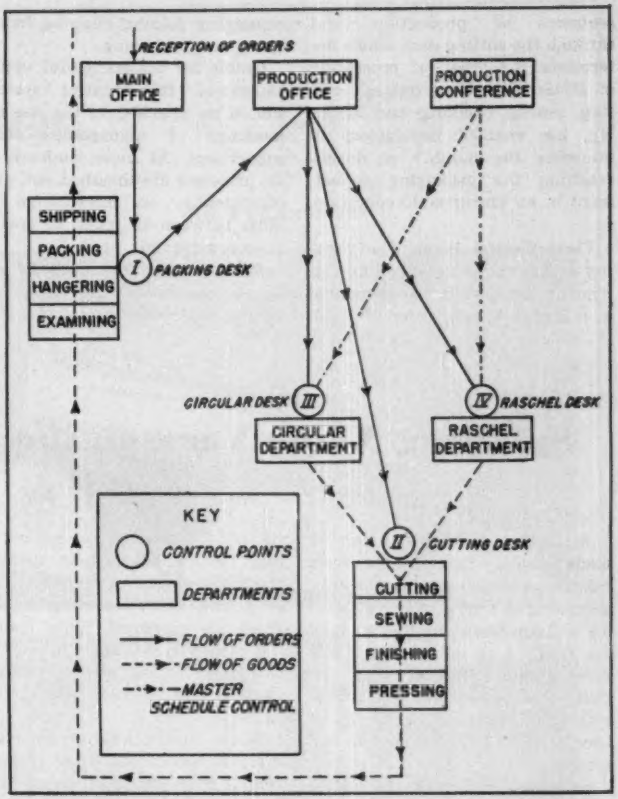
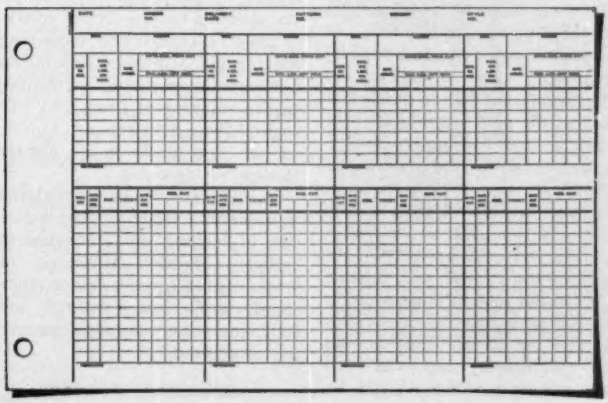


Diagram of knitting production control at Bamberger, Reinthal Co.

Diagram of knitting production control, Bamberger, Reinthal Co.



The process is repeated in sewing, finishing, and pressing. Priority lists are given to supervisors in these departments. Special emphasis is placed on this phase of control because the shipping of a style is dependent on having all its colors and sizes prepared at about the same time. If a color or size should be delayed for any reason, the remainder of the order is stalemated. In most cases it is necessary to hold the style in question in bins or cartons until the missing size or color comes through.

Control, through the master schedule which determines the

sequence of production, and through the cutting desk which determines the order of processing of styles and colors through cutting, sewing, pressing, and finishing, has enabled the factory to minimize the number of dozens reaching the packaging department in an unshippable condition.

Final Control Point. The packing desk is the last controlling element in the system. The personnel at this desk handle orders through examining, folding, clipping, hangering, and packaging.

Credit for the successful application of this control system should be attached to the weekly meetings of management and supervisors. At these conferences all problems are thrashed out, and coincidently, an interchange of ideas between all levels of operatives is achieved.

When agreements can't be effected, committees are appointed by the conference group to study the problem and report their recommendations at the next meeting. One of the offshoots of such sessions is the harmony that now exists between management and supervisory personnel.

At the present time over 100 different styles are being produced. Each style comes in three or more colors. Yet, the control system outlined has met the unique needs of this situation. Production is satisfactorily being controlled and maintained at a high level.

Spinning Nylon Yarn on the Woolen System

Attractive, lofty yarns can be made on the woolen system from regular or crimp-set nylon staple, according to a new technical service bulletin issued by the Du Pont Co. The crimp-set nylon usually gives greater loft and fabric stability than the regular (not crimp-set) nylon staple and, for many uses, is especially desirable on this system.

Selection of denier and staple length will be governed by both the end product desired and the type of machinery being used for processing. Little trouble should be encountered spinning 1½ denier staple to 10 run, 3 denier to 8 run, and 6 denier to 5 or 6 run. The finer counts will require the use of fine tape condensers.

For fine counts, it is probably desirable to use staple lengths in the neighborhood of 2 to 3 inches. The selection of staple length will be influenced to a great extent by the number of ends on the condenser and by the thoroughness of the carding action. If the fibers are fairly well parallelized, longer staples may be used with subsequent longer drafts in spinning.

The woolen system is adaptable to the production of excellent blended yarns.

Opening. To obtain as uniform a roping as possible, it is desirable to prepare the stock thoroughly for the carding operation. Although nylon contains no foreign matter, its initial resistance to opening is high. Where practicable, opening the bale and conditioning the stock to permit self-blossoming of the fibers are suggested. When blending with wool or other fibers, any oiling or tinting of the natural stock should be done before mixing with nylon.

Following the self-opening step, there should be sufficient picking to pull apart the small bunches of staple; however, excessive picking should be avoided, thereby lessening any tendency towards the formation of neps. When blends are made, 2 or 3 passes through the blender or blending picker should insure good mixing.

Carding. The first essential of good carding is the delivery of a highly uniform blanket to the feed rolls. This may be produced by maintaining a constant level of self-opened stock in the hopper, using fairly close settings of the doffer comb, and by increasing the speed of the feed apron. The feed should be heavy enough to reduce length-to-length and crosswise variation.

In the carding operation, settings used for high grade wools generally will be acceptable for nylon. More critical adjustments of the fancy and of the workers and strippers may be necessary. The clothing on all surfaces, the tape condensers, and the rub aprons or ring doffers should be maintained in good operating condition. It will be necessary to regulate the tension on the final web to prevent the formation of thin spots.

When using 96 or 120 end condensers, it may be necessary to keep staple length below 3 inches in order to prevent overlapping of fibers from one roping to another. The individual filaments are so strong that they can break down these ends. As noted before, the degree of fiber parallelization on the card will affect this variable.

The desirability of producing a highly uniform roping with a minimum amount of neps and waste is emphasized. Properly adjusted cards should produce very few neps on the Woolen System. As is done with wool and other fibers, reversing one or more of the workers on the second breaker may be effective in improving the carding action and producing a more uniform roping. Incidentally, the spinning of fine yarns will require very light ropings, for the use of high drafts is not always feasible or desirable.

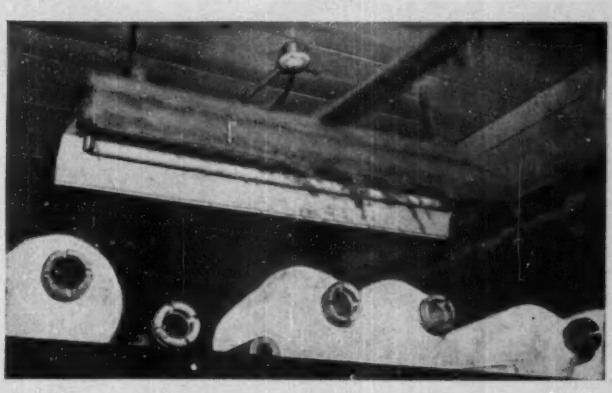
Should difficulty be encountered in processing the nylon, the reduction of feeding rate, reduction in cylinder speeds, decreasing of worker speeds, increasing of fancy speed, and closer worker and stripper settings may help improve the processing.

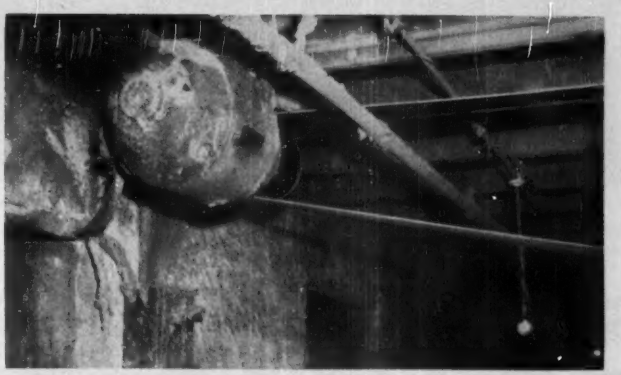
(*Continued on page* 199)

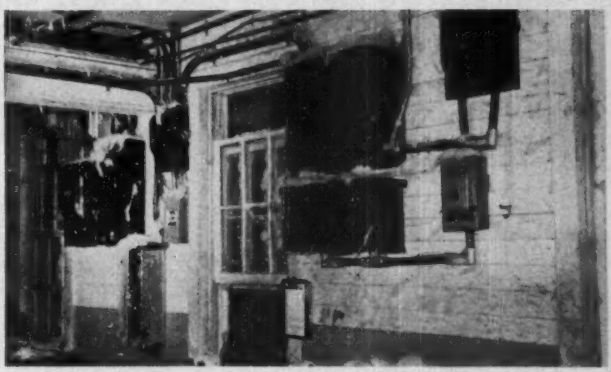
Electrical Hazards
in Textile Mills

LINT

No. 1 of a series







THESE photographs show four types of electrical equipment, each of them covered with lint, and no one of them designed for operation in such a lint covered condition.

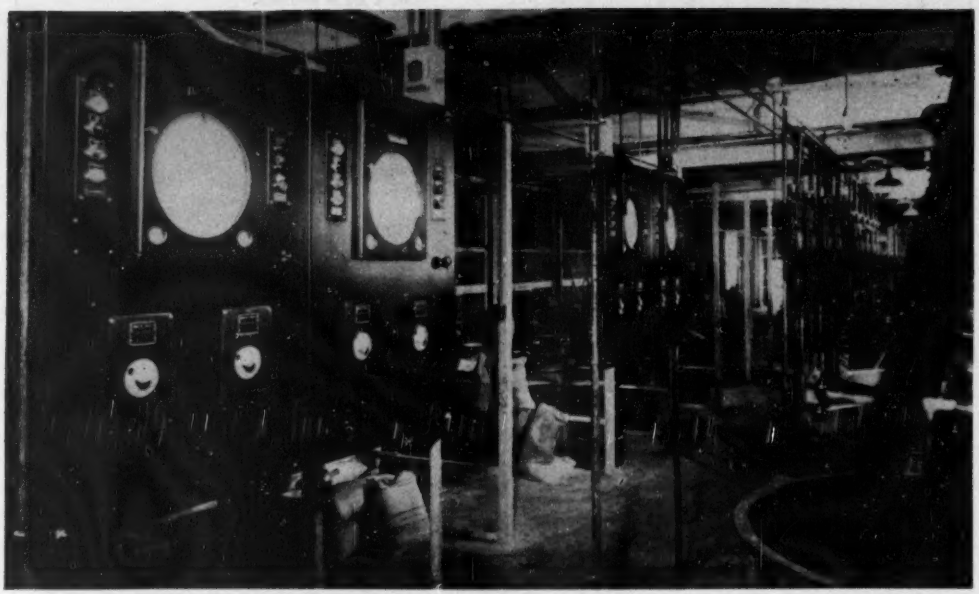
This type of careless housekeeping is the cause of many electrical fires in the mill. Though it would certainly be wise for mills to select electrical equipment designed for such conditions when purchasing replacements, it still remains that heavy lint is never a help, especially on electrical equipment.

Frequent cleaning and a real effort to reduce the amount of lint in the air is about the best that can be done to reduce fire hazards around old equipment.

Good housekeeping is most important.

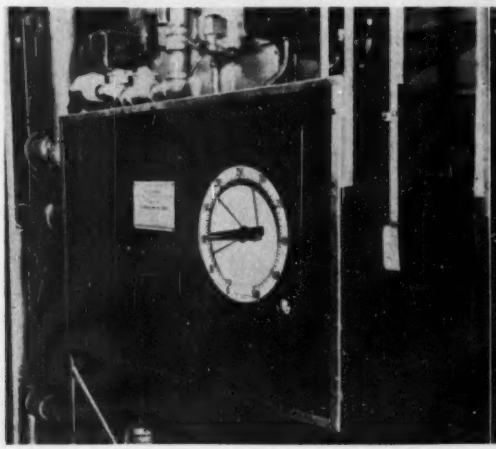
Photos courtesy, Factory Insurance Association

Adequate Instrumentation Aids

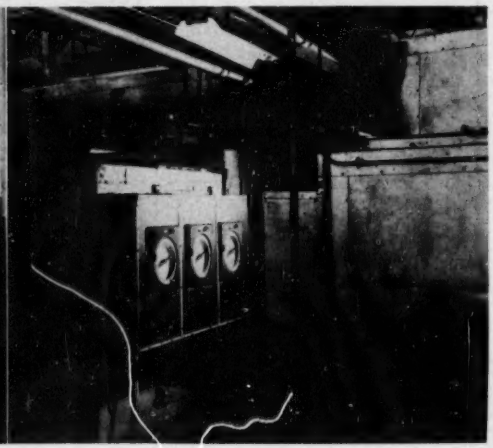


DYE AND SIZE COOKING CONTROLLERS are panel-mounted in the finishing department at Swift Manufacturing Company. The four control systems shown in center and left foreground control time and temperature of dye cooking kettles.

PRE-DRYER CONTROL PANEL showing ElectroniK temperature controller and Protectoglo combustion safeguard device. Grad-U-Motor device at upper left regulates air and gas supply to burner.



ELECTRONIC POTENTIOMETERS control temperature in tenter dryer operation at Swift Manufacturing Company. Each instrument regulates air and gas supply to burner heating one zone.



Wet Processing

Automatic control instruments help maintain quality standards in slashing, dyeing, tentering, and finishing at Swift Manufacturing Co.

By E. A. BENTLEY
Superintendent
Swift Manufacturing Co.

THE Swift Manufacturing Company at Columbus, Georgia, is a specialty mill. Two of its major products are automobile seat cover materials made of fiber, cotton and plastic, and cottonett (an open mesh material).

With diversified production such as this, the maintenance of uniformly high quality becomes a problem in that each type of material produced requires close control under different operating conditions.

Control of Size Preparations. In size cooking, time and temperature are the critical variables. Temperature alone is the important factor to consider when size is stored. Successful slashing, on the other hand, demands close control of the following: (1) level and temperature in the size box; (2) steam pressure in the drying cylinders; and (3) per cent regain (moisture content) of the slashed yarn. Failure to maintain any one of these variables within the optimum operating limits can result in the production of warp yarn which may give trouble in subsequent manufacturing processes.

In preparing size, the objective is to produce a solution which will have a uniform viscosity from batch to batch. The temperature at which the size is cooked is a critical factor, and a difference of 10 F in the heating temperature (from 200 to 210 F) makes a difference of 70 per cent in the consistency of the size.

Time is Important. If the mixture is held at the boiling point for too short a time, the desired viscosity will not be reached. Unfortunately, over-cooking is equally undesirable because viscosity decreases as the time of cooking increases. If cooking time varies, the viscosity will not be uniform.

The size cooking operation is regulated by the Time-Pattern control systems shown in the accompanying illustration. Each cooking kettle employs a Time-Pattern transmitter and a recording thermometer which incorporates a pneumatic control unit.

An advantage of maintaining the size at a constant temperature while in storage lies in the fact that only enough heat need be added in the size box to offset the heat lost in the distribution line and in the size box. This eliminates the undesirable viscosity variations which could occur if relatively cool size were admitted to the size box.

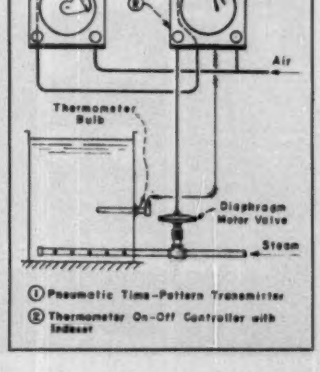
The control instruments are very similar to those used in cooking the size, except that their set point indices are adjusted manually by the operator rather than remotely by Time-Pattern transmitters. Once these indices are set at the desired storage temperature, the instruments regulate the steam supply to maintain each storage kettle at the present temperature.

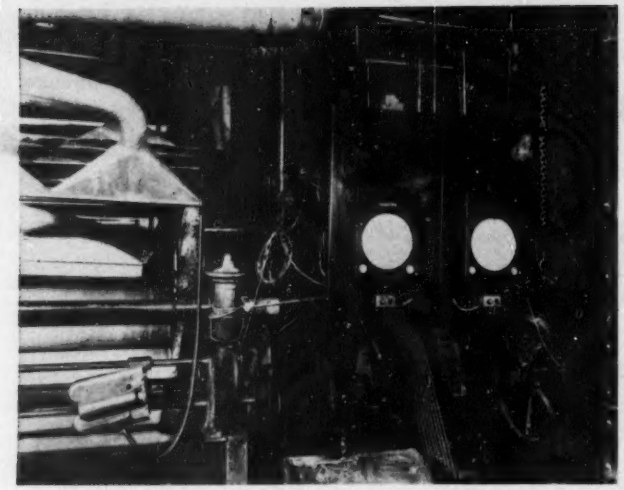
Size Level and Temperature Control. Undue variation in the level of the size in the size box often leads to the production of soft warps. Furthermore, fluctuations in level can leave hard size deposited on the side of the size box, and this hard size will be picked up later when the level rises. With manual control of size level, there always exists the possibility of the size box either overflowing or running dry.

Operation of the level control system is based on the electrical conductivity of the size solution. When the size solution falls, the valve (regulating flow of solution) to the size box opens. This valve remains open until the solution reaches the proper level. A signal light indicates operation of the control system.

Size box temperature is important from the standpoint of uniform pickup and also uniform penetration, and unless the temperature is kept above 205 F, penetration will be adversely affected. The size box temperature controllers operate similar to the size

TIME-PATTERN COOKING CONTROL system showing schematic layout and operation.





TEMPERATURE AND LEVEL CONTROL instruments on tenter size box in finishing department at Swift Manufacturing Company.

storage temperature controller.

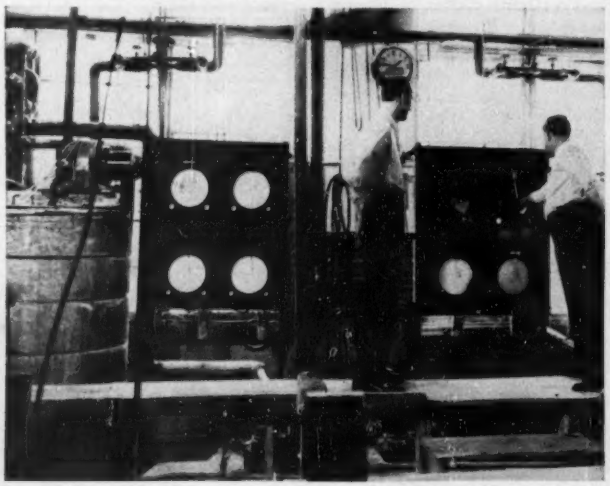
Controlled Steam Stabilizes Regain. Variations in slasher cylinder temperatures are reflected in changes in moisture content or per cent regain of the slashed yarn. Automatic control of steam pressure stabilizes the surface temperature of the drying cylinders.

Our control system continuously measures the pressure of the steam entering the slasher cylinder and maintains the surface temperature of the drying cylinder at the correct level. Many slasher tenders are afraid of wet warps and tend to overdry the yarn when using manual control. Oftentimes they operate the slasher below its maximum speed, thereby reducing production.

Automatic control of regain at Swift Manufacturing Company is accomplished by means of a Moist-O-Graph instrument on each slasher. The Moist-O-Graph measures the small current flow through the yarn which will vary in a fixed relationship with its moisture content. The instrument, whose chart and scale are both calibrated to indicate 4 to 12 per cent cotton regain, holds the yarn at the desired moisture content by automatically regulating speed of the slasher.

Mounted on the front of the Moist-O-Graph cabinet are provisions for placing the instrument on manual or automatic control and for operating the slasher manually at any desired speed. Two signal lights are also included; one shows when the instrument is on automatic control, and the other indicates operation of the size box level control system.

AUTOMATIC CONTROL INSTRUMENTS for size cooking and storage. Right panel holds cooking controls; left panel holds storage controls. Two cooking kettles furnish size for 10 slashers.



Instrumentation in Finishing. Some of the finishing operations which are aided by the use of automatic control are: size preparation, dye preparation, and tentering.

Size prepared in the finishing room is not transferred to storage kettles, but it is held in the cooking kettles until used in the tenter size box. 12 panel-mounted control systems provide close control of both time and temperature during the cooking cycle and for storage time. Each control system, mounted on its own panel, comprises a recording thermometer with pneumatic control, a timer and necessary relays, colored signal lights, and control accessories. After the desired cooking time and temperature and storage temperature have once been set, the operation is entirely automatic.

Complex Controls for Dye Cooking. The cooking schedule followed in preparing dye for use in finishing operations necessitates the use of a control system which is more complex than the system used on the size cookers. The dye bath is raised to a predetermined precooking temperature, held at that temperature for a specific time, and then the steam is shut off so that additional ingredients can be added. A warning bell notifies the operator when it is time to add ingredients. The temperature must

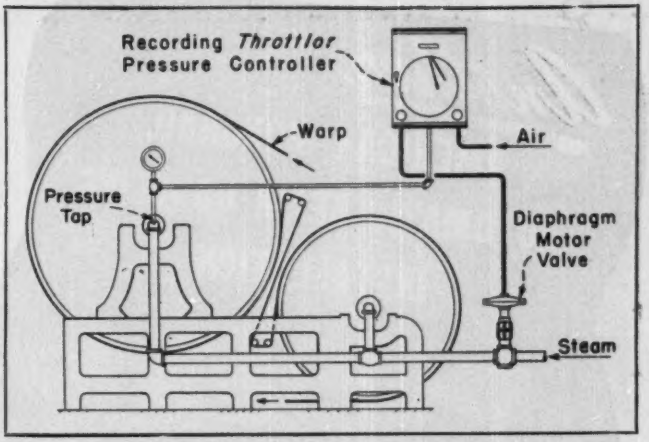
be raised for a second period of cooking, held there for a timed interval, and the steam is finally shut off.

The panel-mounted systems control time and temperature on four dye-cooking kettles. Each control system consists of a recording thermometer, incorporating both pneumatic and electric control units, two timers, and the necessary relays, colored signal lights and control accessories. White, red, amber, and green signal lights on the panel board indicate respectively: precook, add ingredients, cook, and steam off.

Level and Temperature in Tenter Size Box. Instruments which automatically control tenter size box temperature and level are important. In controlling temperature in the tenter size box, a recording thermometer with pneumatic control operates in the same manner as the slasher size box temperature controller. The level controller, however, is of the air-purge type. The level control instrument in this application is not affected by the electrical conductivity of the measured liquid; it provides close control of the level because of its proportioning action. The set point index of the instrument is easily adjusted, a convenient feature when the operator finds it necessary to change the desired level in the size box.

Close Control Essential in Drying. After the fabric has received the proper application of finishing material in the tenter size box, it passes first through a pre-dryer and then through a tenter dryer. The design of the dryers permits extremely rapid changes in heat input. The rapid changes are necessary to insure uniform and correct moisture content of the cloth when the tenter is sometimes stopped and started and when its speed is changed.

Both the pre-dryer and the tenter dryer have gas-fired burner equipment and large circulating fans—a combination capable of producing a very large quantity of heat in a relatively short period of time. The production of large quantities of heat rapidly and varying the amount quickly in accordance with the demand, combined with the high cloth speed (75 to 100 ypm) make it obvious that the control system must be capable of very rapid response to any temperature change within the dryer.



TEMPERATURE CONTROL FROM PRESSURE is illustrated in this diagram of a two-cylinder cotton slasher.

An ElectroniK potentiometer controls temperature in the pre-dryer. This instrument is actuated by a sensitive pencil-type thermocouple exposed to the hot exhaust air. The potentiometer operates a Grad-U-Motor device which, by means of suitable mechanical linkage, regulates both the air and gas supply to the burner.

The exceptional sensitivity and high speed response of the instrument enable it to maintain the desired temperature, regardless of fluctuations in gas pressure, variations in moisture content of the cloth, and changes in cloth speed.

Each tenter dryer makes use of three heating zones, each of which is maintained at a different temperature. Cloth entering from the pre-dryer has already had much of its moisture removed, and control of temperatures in the three zones of the tenter dryer is critical.

The burner equipment for each zone is similar to that described for the pre-dryer, and the instrumentation is the same. An ElectroniK potentiometer continuously measures the temperature in each zone, and holds this temperature constant by varying the amount of air and gas supplied to the burner.

Safeguard for Burners. Both the pre-dryer and the dryer are gas fired, and unobserved failure of the flame on any burner would result in a dangerous concentration of gas which would constitute a serious explosion hazard. Protectoglo flame failure safety devices are utilized on all burners to provide insurance against this type of accident.

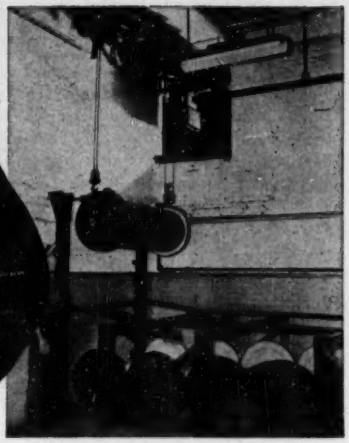
An electrode is mounted at each burner so that the ionized gas within the flame forms part of an electrical circuit. If the flame fails, the circuit is broken, and appropriate relays immediately shut off the main gas supply to the burner and actuate a signaling device which warns the operator that a flame failure has occurred.

INSTRUMENT MAINTENANCE

Those responsible for care and operation of automatic process control instruments will find much helpful information in a series of articles published in TEXTILE INDUSTRIES during the latter part of 1949 and early part of 1950.

Entitled "Increasing Mill Production Through Effective Instrument Maintenance," the articles were written by E. A. Murphy of the Brown Instruments Division, Minneapolis-Honeywell Regulator Co., and have since been reprinted in booklet form. A limited number of these reprints are still available and may be obtained by addressing Brown Instruments or the editors of this magazine.

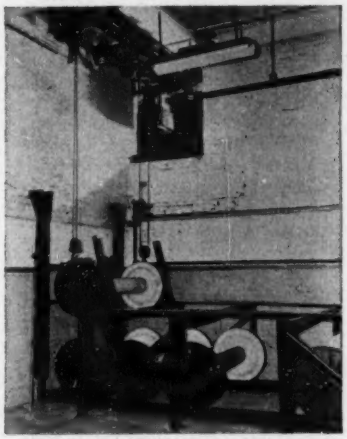
Another AMERICAN MONORAIL AUTOMATIC BEAM HANDLING INSTALLATION



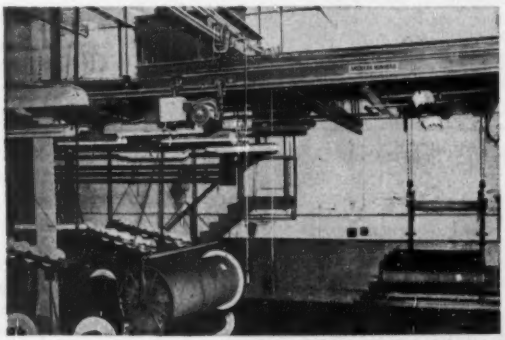
Automatic dispatched carrier stops over rack in slasher room, lowering beam which is guided into position for deposit on the upper tier of rack. Beam automatically rolls off hooks which continue down to lower tier to engage with an empty.

To eliminate hand pushing of heavy beams on dollies up and down ramps between various rooms appeared to be a very complicated and costly job. With hundreds of overhead handling installations to draw upon, American MonoRail engineers, by using a few simple innovations, installed this system. Now, full beams are automatically transferred from the warper room on one level, to the slasher room on a lower level, with return transfer of empty beams without attention after carrier is started. Savings effected will pay for the system in a suprisingly short time.

Why not put your handling problems in the hands of an American MonoRail engineer? Let him show you cost and time-saving advantages offered by American MonoRail Overhead Handling System. No obligation, of course.



Carrier unit automatically raises empty beam to upper limit whereupon the unit returns to the warper.



Hand pushed crane with electric hoist takes beams from rack to interlocking spur track over each slasher creel.

THE AMERICAN MONORAIL COMPANY

13106 ATHENS AVENUE CLEVELAND 7, OHIO

STRIPPING is necessary at regular intervals to maintain quality in the woolen card room. Overseers should closely supervise this operation. A good rule to follow, according to the author of this article, is: Do as little stripping as possible and still obtain efficient carding. The men in the photo are using vacuum to strip the worker and stripper rolls on this wool card. One man holds the rotor which revolves the roll at high speed, while the vacuum nozzle is manually traversed across the card by another attendant.

Maintenance of Woolen Cards

Part 2*

By WILLIAM J. CROFTS

PERIODICAL grinding of the wire is a necessary part of maintenance. The points of the wire, being dulled by the abrasive action of carding, wear unevenly, forming high and low streaks. The purpose of grinding is to restore the sharp points and a smooth, level surface. Excessive grinding shortens the length of the wire unduly and should be avoided.

Fancies need grinding, not for a sharper point, but to grind off the needle point that forms from contact with the cylinder wire.

The traverse grinders should be kept well oiled, and all emery dust and dirt should be wiped clear of the shell to retard wear. The shell will in time wear more in the center, and when this condition becomes pronounced it should be reconditioned by grinding with a lathe grinder to restore the level surface.

Card Settings. Setting workers to the cylinder with a No. 30 or 32 card gauge places excessive strain on the delicate card wire, causes the points to wear off quickly, and hastens the loss in pitch. Where the blends contain fine pills of fibers such settings are necessary to comb out the specks; however, it is much more practical and economical to use finer wire (a No. 35 in place of No. 34) with extra nogs per inch to give more points per square foot. If there are four cylinders in the set, No. 34 wire on the second breaker and No. 35 wire on the double finisher will give excellent results and with more open settings.

For average stocks and on yarns from 2- to 6-run, setting the workers and strippers to the cylinders with a No. 26 card gauge is usually satisfactory. The gauge should be inserted lengthwise of the roll and the setting made so that the gauge slides easily with a slight pressure when held lightly by the tips of the thumb and index finger.

When both ends of the roll are set in this manner the setting at the center should be checked. Unfortunately, many worker rolls have a slightly larger circumference or radial crown at the center.

Occasionally a doffer or cylinder will be in this condition; it should be ground level with a solid emery wheel fitted on a traverse grinder shell that is itself true and straight. There must be straight lines on the cylinders and doffers if the weights of individual ends are to be kept within the tolerance allowed. Due to their light construction, it is not always practical to grind worker shells.

Carpet or similar wools require more open settings. Since these fibers are brittle, close settings break them with some loss in strength.

A No. 24 gauge should be used for the coarser stocks. In almost any woolen mill, there are drastic changes in the nature of the stocks used while changing from medium or fine to very coarse stock. If a card is set with a No. 26 gauge for finer stocks and a sudden change is made to coarse

*Part 1 of Mr. Crofts' article appeared in the December, 1950, issue, beginning on page 97.

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can't be found
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122

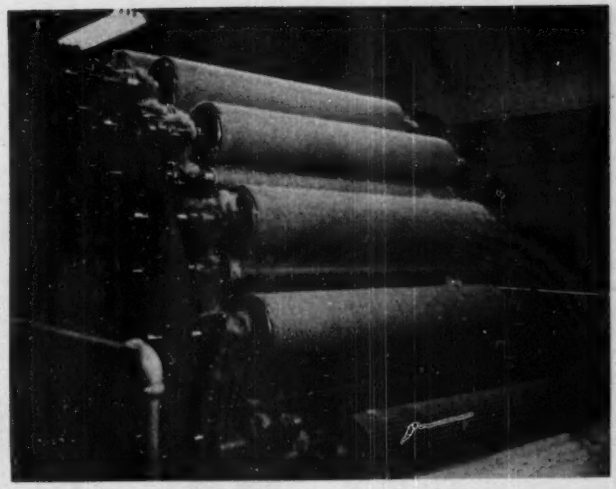
wools, strips of shipping tags can be inserted under the worker bearings for more open settings. In this way the original settings can be quickly restored when changing back to finer yarns—simply remove the strips of cardboard. Since strippers are carrier rolls only, they should be set to the cylinder permanently with a No. 26 gauge.

Usually the broad band feed carries a leader and tumbler roll with a small leader fancy. If the carder desires to eliminate the fancy entirely, it can be done by setting the leader and tumbler together with a No. 32 or 34 gauge. With this close setting the tumbler will clear the leader, making a leader fancy unnecessary. Set the tumbler to cylinder with a No. 26 gauge. Metallic breasts having rigid teeth with no "give" or "raise" to the points can be set very close (No. 30 gauge) and should be set this way to afford full protection to the more delicate card wire.

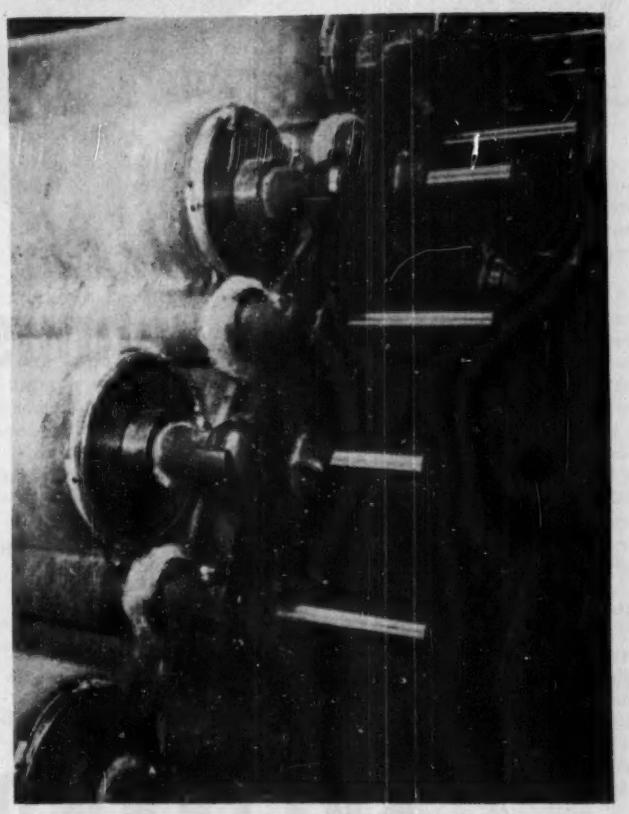
Considerable skill and care is needed to properly set that very important roll—the fancy. A No. 26 card gauge is usually pushed up through and between the fancy and cylinder and the setting judged by the resistance of the fancy wire against the gauge.

A short fancy wire (1¼") will give more resistance than wire 1½" long and allowance is made for the difference. As the tips of the fancy wire (regardless of length) should mesh about 3/32" into the cylinder wire, the setting can further be judged by sight. When functioning properly, the bed of strippings in the cylinder wire will present a smooth surface with about 3/32" to ⅛" of the wire showing clear. If the strippings show a rough, pilly surface, the fancy is set too deeply. When the fancy is set too lightly, the cylinder loads up quickly and the fault shows up in the roving or the sliver. After a setting of the fancy, the cylinder should be watched and checked when the card is in production.

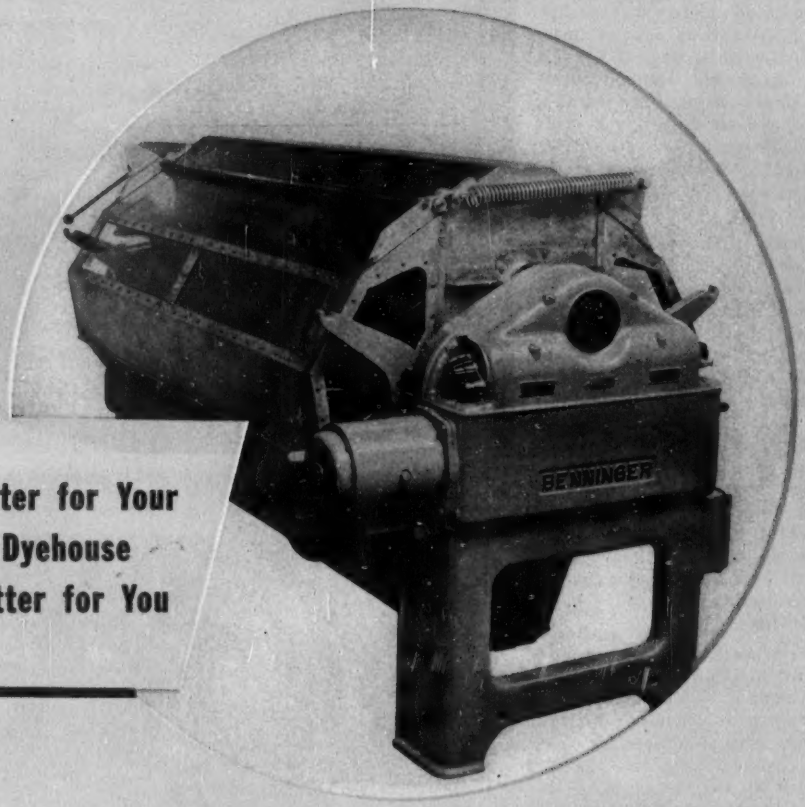
Stripping. Stripping is necessary at regular intervals to maintain quality, but as a general rule



SINCE THE EFFICIENCY of the wool card is dependent on the condition of its clothing, it is wise to use only the best. Condition of the wire should be the determining factor as to time for replacement.



LUBRICATION plays a major role in the preventive maintenance program in the wool card room. Modern machinery has been greatly improved in this respect. Note the pressure fittings for lubricating the bearings of the workers and strippers on this new card.



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Stop and start. Stop and start . . . There is lost time and lost production in the dyehouse that depends on manually controlled jigs for precision dyeing results.

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BUTTERWORTH

there is too much stripping done.

The overseer should closely supervise this operation. The writer has run 10,000 pounds of wool per card between strippings and this was not a stunt but a regular practice month after month. Then there are blends where the card may need some stripping every 1000 pounds. It must be borne in mind that when a card is down for stripping not only is production stopped, but weights of roving are disturbed and changes are produced in the shades if the blend is a mixture of colors.

A good rule: Do as little stripping as possible. Here again good clothing comes to the front, for a well clothed card properly balanced will require far less stripping than a card with worn clothing.

The presence of wool grease or a gummy wool oil in the blends makes frequent stripping necessary. The grease mixes with dirt and short fiber, gradually building up a deposit on the wire until a slick coating is formed. This condition increases the labor cost and also the hazards of making faulty, inferior roving.

Lubrication. Oiling of all card bearings is a part of preventive maintenance. A definite system should be established that will completely take care of all bearings daily. This will reduce wear and also prevent many serious breakdowns.

In this connection, it should be mentioned that fancies and doffer combs should not be run at unnecessarily high speeds. Another preventive measure is the checking of all cards for machine accident hazards and conditions that may cause wrecks so damaging to both rolls and clothing. If a wreck occurs, an investigation should be made to determine the cause.

In spite of all precautions, parts will break, gears will wear out, and high speed bearings will become badly worn. Welding takes care of many casting breaks, but to reduce down-time a few spare parts and gears should be kept on hand. If a large wall space is available, these parts can be distributed on pegs on the wall in plain view readily accessible in an emergency and for a quick, up-to-the-minute inventory.

The metallic breast acts as a buffer, neutralizing the shock of opening out any knotty locks of stock. The wire must be cleared of grease, hard burrs, and pieces of wood or metal. Points of the wire can be partly renewed by using a sharp knife-edged file known to the trade as a cylinder bastard. Putting in new wire is a job that must be done entirely on a lathe; many mills prefer to do this in their own shop, thereby saving freight both ways if these heavy rolls are shipped to a distant shop for repair.

A record should be kept of each individual card for its production and quality. Periodic surveys should be made to determine the condition of all clothing, belting, rub aprons and tapes; also notations should be made of any worn parts that may need attention. This procedure keeps everyone concerned intelligently posted.

All installations of new clothing, rub aprons, tapes, and belting should be recorded, listing the date, location on the machine, maker's name, and description of size and type. This calls for considerable paper work but provides definite answers to all questions about length of service and performance.

Cylinders, doffers, and all the smaller rolls that serve as a foundation for the card wire should have a smooth surface and should be true in circumference. The shaft bearings will wear and often wear out of true. Spray welding of the worn places and turning down the bearing will make the roll as good as new. When installing new clothing, a coat of paint or linseed oil applied to the surface of all cylinders and rolls will prevent rusting of the steel card wire.

Yes, maintenance of woolen cards is the responsibility of the overseer who with his training and experience should be capable of quickly deciding when and where machines need repairing or overhauling. Fixers and operators must cooperate, however, by reporting immediately any defects that appear in the clothing, belting, rub aprons or other machine parts.

THE END

Research Refresher Course Announced by TRI

An extension of Textile Research Institute's educational program to be known as the Research Refresher Course has been announced by Dr. J. H. Dillon, director of research.

For some time it has been realized that there is a definite need for a program which can provide additional research training for applied scientists of the textile industry. In an effort to meet this need, the Institute has set up the Research Refresher Course which has the primary objectives:

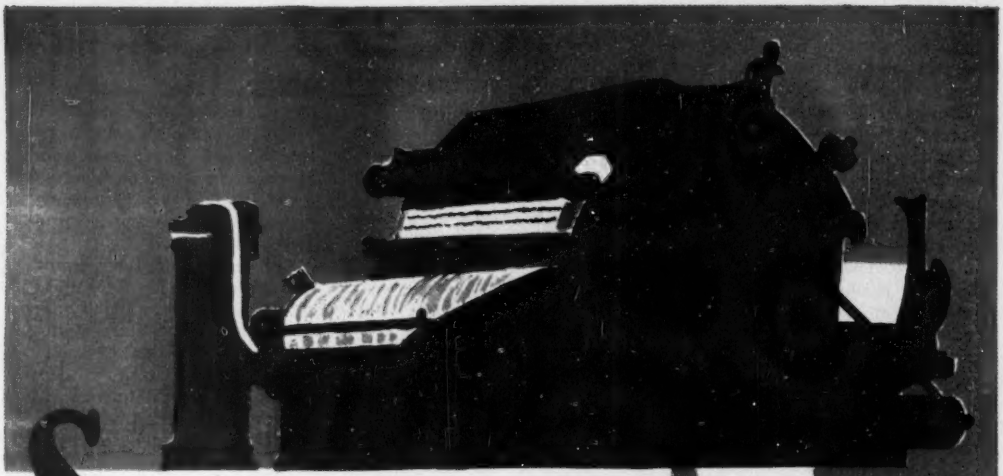
(1) To provide opportunities for technical men in the textile industry to work in the Institute laboratories for one year in order to gain an insight into modern fundamental research in textiles;

(2) To provide a service to member mills wherein the training of their junior technical men may be broadened;

(3) To bring into the Institute research group men with practical textile background which should exert a balancing effect upon the research program.

In brief, the program permits a limited number of technical men from member mills to work in the Institute laboratories under the direction of senior staff members. Salaries of these men, plus living allotments, will be provided by the firms where they are regularly employed. When desired, these men may be enrolled as "incidental graduate students" of Princeton University.

Inquiries about the research refresher program may be directed to Dr. Dillon at the Institute's Princeton address.



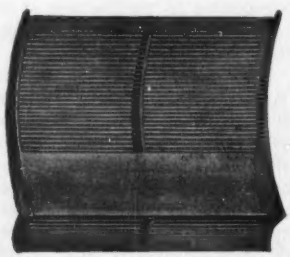
Stop Losing Dollars in Card Fly Waste!

If you're finding good spinnable staple mixed in with the moats and trash under your cards, it's time you installed *Jenkins Card Screens.*

Jenkins card screens are engineered to set closely to your cylinder. Absolute uniformity in every part makes possible the perfect settings —impossible with inferior or damaged screens—which prevent excessive air current from blowing good staple into fly waste.

Improved grooving and patented grid bar construction, developed and used exclusively by Jenkins, assure you of maximum screen efficiency. Jenkins manufacturing and rebuilding service is backed by 37 years of experience, fully guaranteed.

You don't *have* to put up with costly, continuous waste under your cards. Why not talk to a Jenkins representative about it?



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Alabama Mill Men Consider

Spinning and Spooling Problems

Underframe Cleaners • Spinner's Duties • Automatic Builder Motions • Handling Tailings Causes and Remedies for Wild Yarn.

*Staff Report**

THE FIRST question on the spinning forum asked for experience with automatic underframe cleaners on spinning. Among the mills reporting, three had experience with this type of cleaning equipment. An experimental installation of four underframe cleaners showed good results, according to a spokesman for one mill. Four cleaners are installed on frames near the middle of the spinning room, and these frames have not had to be blown off on the underside since the cleaners were installed. They do a good job of cleaning on their respective frames, but lint accumulates under frames nearby. This mill has ordered 14 additional cleaners to put on other frames. An effort is to be made to blow lint from the frames to the outer walls of the spinning room where the sweeper can easily get to it.

Results to date for the four underframe cleaners show: 10% less ends down; less gouts and big ends (break backs on spoolers) from 3.299% to 2.108%; reduced slugs (various sizes) in finished cloth by 26.09%.

Another plant with an installation of four underframe cleaners on frames making 4½s yarn reported good results, and no other cleaning was required on frames equipped with the automatic cleaners. Quality has improved with less slugs in yarn, and time is saved in that a daily blowdown is no longer necessary on these frames.

Six automatic underframe cleaners have been in operation for more than a year in one instance, it was reported orally at the meeting. 30 to 50% less ends down were recorded on all tests where the underframe cleaners were used, and fabrics showed less slugs woven in. 50 additional cleaners were ordered by this mill for other installations in the spinning room. Improved quality is attributed to less lint on travelers, less flying lint, and to the frame being kept clean underneaath. Comparative tests were run to determine the differences noted.

Spinner's Duties and Cleaning. Mill men were asked to give details of spinner's job, listing spinner's duties and cleaner's duties. Some answers to the question are as follows:

Mill A. Filling spinners have from 10 to 12 sides, depending on yarn numbers being run. Yarn numbers range from 4s to 15s. The duties of the spinner are to piece up ends, creel in roving, run out thread guides, clean scavenger rolls, and knock out travelers.

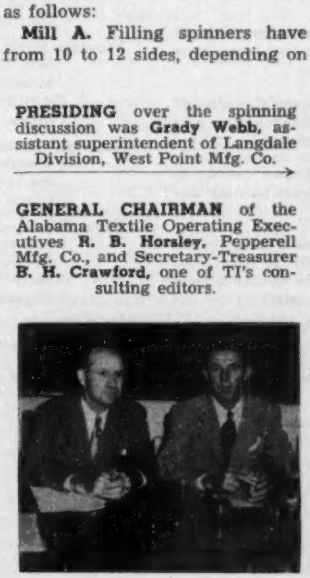
Warp spinners have from 12 to 20 sides, depending on the yarn numbers being run and the spindles per frame. Yarn numbers range from 10s to 29s. The duties of the spinner are to piece up ends, creel in roving, run out thread guides, clean scavenger rolls, and knock out travelers.

Clean-off operatives have from 33 to 38 frames each, depending upon the number of spindles per frame. The cleaning is done by operatives on all three shifts.

(*Please turn to page* 139)

PRESIDING over the spinning discussion was **Grady Webb**, assistant superintendent of Langdale Division, West Point Mfg. Co. →

GENERAL CHAIRMAN of the Alabama Textile Operating Executives **R. B. Horsley**, Pepperell Mfg. Co., and Secretary-Treasurer **B. H. Crawford**, one of TI's consulting editors.



*Continuation of the report of the fall meeting of Alabama Textile Operating Executives, held in Auburn, Ala., October 28, 1950. For carding discussion, see the December issue of TEXTILE INDUSTRIES; it begins on page 109.

Serving the Textile industry

A FAMILY OF CHEMICALS FOR COTTON AND WOOL

COTTON

Piece Goods—Sted, Monsanto's non-sudsing detergent, is powerful yet chemically mild, and won't damage the most delicate fibers. Sted works well in hard water without softeners. Easy rinsing saves time, labor and helps prevent odor.

Flame Retardance—Monsanto's Rezgard A, specifically designed for cotton, meets New York City standards for fire retardants on textiles. Rezgard is a fugitive-type, and water soluble, although it is durable for considerable periods of time. Rezgard does not alter tensile strength, hand, or other characteristics.

Dyeing—A powerful wetting and scouring agent, Monsanto's Sterox proves effective as a dyeing assistant, for a growing number of cotton finishers. Sterox competes favorably with other detergents on a money-value basis.

Merlon—The salability of cotton is greatly increased by the use of the Merlons . . . Monsanto's series of water dispersible resin polymers. The Merlons provide a fine, crisp, durable hand on cotton sheetings . . . a percale-like finish for very little more than the cost of starch. Wear resistance also is improved.

Tickings—The Merlons improve hand, as on sheetings described above. In addition, a special Merlon formulation gives improved wear resistance on tickings.

Dress Goods and Suitings—Resloom, Monsanto's melamine resin, provides durable wrinkle resistance on a wide range of cotton constructions. Resloom has proved successful on millions of yards now in consumer hands; the cotton snubs some wrinkles and sheds the rest. In addition to wrinkle resistance, Resloom provides durable stability.

Direct Dyed Goods—Improved washfastness is gained by the use of Monsanto's Dye Fixative 105. In direct dyed goods, the dye fixative improves the quality without substantially raising the finishers' costs.

Reg. U. S. Pat. Off.: Syton, Resloom, Merlon, Rezgard, Sted, Sterox.

WOOLENS & WORSTEDS

Stock—For the toughest cleaning jobs in the world, Monsanto offers two powerful detergents, Sterox in liquid form, Sted in drypowder form. Monsanto offers specific formulations for your particular cleaning problem. Both detergents are powerful and yet chemically mild, and *rinse easily* . . . saving time and labor.

Syton—Monsanto's colloidal dispersion increases yarn strength from 10%-to-30% depending upon the particular mill. Applied at the picker or gill box, Syton provides better carding, more uniform roping or roving. Because of increased strength, ends down are reduced and it's possible to spin closer to the limit spin. Mills, therefore, get the most value per pound of expensive stock.

Rug Yarns—In scouring rug yarns, Monsanto's Sted gives a uniform, clean base for dyeing. Its chemical action is mild, yet very powerful. Because it is non-sudsing, Sted rinses easily and mills consequently save operating time and labor.

Shirtings, Blankets—The foremost and outstanding method for wool shrinkage control. Woolens with Resloom washability are already on the market, and successful in the most exacting consumer tests. As many as 75 washes with less than 5% shrinkage. Through the new processes, Resloom can now be applied without investment in expensive curing equipment.

Woolen Suitings—Monsanto's Merlon, a series of styrene resin dispersions, gives added body to woolen suitings. Monsanto can recommend one of the Merlon dispersions exactly suited to individual wool fabric requirements.

Suitings—Resloom builds body into the fabric, in addition to washability. The bodying effect produces better drape and better tailor-ability . . . in addition to a hand which retains the fineness of traditional wool suitings.

Piece Goods—Monsanto's liquid-form Sterox is now used in continuous scouring systems for piece goods. Sterox is a powerful, yet chemically mild detergent, which *rinses easily* . . . and cleans thoroughly throughout without damaging the most delicate goods.

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MONSANTO
CHEMICALS—PLASTICS

SERVING INDUSTRY... WHICH SERVES MANKIND

Causes of Wild Yarn at Spoolers

1. Long tails on bobbins.
2. Chokes on cheese arms.
3. Yarn sloughed off bobbins.
4. Spoolers not breaking yarn close to thread clamp.
5. Spooler dropping finger waste in trough.
6. Loose laps on spooler drum.
7. Snick plates not kept clean.
8. Cheese cores out of line.
9. Improperly set snick plates.
10. Machinery not kept clean.
11. Knotter not working properly.
12. Spinner dropping yarn into other ends while piecing.
13. Ring rail in improper position when doffing at spinning.
14. Rotary brushes not kept clean or becoming worn too much.
15. Drum speed too fast.
16. Burrs on cheese plough.
17. Insufficient air blown from traveler into yarn pockets.

Suggestions for Its Control

1. Set snick plates properly.
2. Have sufficient air blowing from traveler into yarn pockets. (A fan mounted on traveler helps.)
3. Break off tails close to thread clamp.
4. Spooler tenders should place broken pieces of yarn in a receptacle.
5. Wipe excess oil from stations near rise roll.
6. Remove burrs from cheese plough.
7. Stop spinning frames with ring rail at center of bobbin for doffing.
8. Keep good rotary brushes on traveler and clean brushes every hour.
9. Keep thread clamps clean and in good repair.
10. Keep all shearers operating properly.
11. Reduce drum speed if it is excessive.
12. Use correct build on bobbins.
13. Use a stationary brush against the drum.
14. Adjust vacuum by regulating relief valve.
15. Check rise roll and presser lever adjustment.
16. Use bat wing thread guides.
17. Clean the machine regularly.

Each shift has five clean-off operatives, and each shift does one-third of the cleaning on frames assigned to each job. The duties of the clean-off operatives are as follows: wipe middle and bottom roving boards with waste; wipe roving rods with waste; wipe cap bars, roving traverse, and roving guides with waste; wipe back sides and roller beams with waste; wipe steel roll stands with waste; brush base and spindle rails with whisk broom; pick top clearers (revolving and flat clearers); pick front roll stands and head end stands with hook; wipe scavenger roll weights with waste; pick all rolls, stirrups, and aprons with mechanical picker.

Mill B. Spinners job is to piece ends, creel roving, run sides every two hours, and brush base rails every two hours.

Cleaners job is as follows: clean top and bottom creel boards every 8 hours; clean back sides every 8 hours; clean roving and roving skewers every 8 hours; clean head and foot ends of frames every 8 hours; clean back under clearers every 120 hours; clean flat top clearers every 8 hours; clean roving rods, roving trumpets and cap bars every 8 hours.

Mill C. Our spinners wipe back sides once a day; run out front sides every hour; brush off rails four times; run 12 sides on 10s yarn.

One operative cleans steel rolls on 15 frames per day. This includes steel rolls, green boards, ring rails, roll weights, gear caps, and roll stands. One operative (roll picker) picks all rolls on 25 frames per shift.

Mill D. Spinners, in addition to creeling and keeping up ends on frames, do the following cleaning: clean creels, tops, sides, and shipper handles; lift and wipe under skewers on roving; pick spindles; on back sides of roll beams, wipe, clean weight wires, lever screws, gear caps, and stands; run out thread boards and wipe top of flat clearers as needed while on patrol; clean roving rods, cap bars, roving traverse, and trumpets; clean green boards, under side of roll beam, roll weights, thread board lifting rods, ring rails, tape tension weights, and Samsons while frame is being doffed; brush rails.

The following operations are done by special operatives who do cleaning: pick top and bottom rolls with mechanical pickers; clean around stands, cradles, and clean flat clearers with picker; slip rolls are cleaned by hand while frames are stopped for lunch. Another operative cleans back scavenger rolls, using a machine to do the job. All frames are blown off with compressed air daily. This is done by section men and oilers while frames are stopped at lunch time. Roving men allow roving to run down on a number of frames each shift and clean creels. This is arranged so that all creels are emptied of old roving once a week.

Mill E. Our spinners run 9 sides of 126 spindles each of 14.70s yarn. They do all spinning, creeling, and cleaning, except for a small part. The cleaning for each shift is as follows: pick 4 sides front rolls; clean 4 sides under lids; pick 4 sides weights; clean 4 sides spindles; pick 4 sides stands; wipe 4 sides roll bars; wipe 9 sides backs; clean 4 sides idlers; pick 8 sides top clearers; once weekly, wipe 4 sides top and bottom roving; clean 4 sides gear caps. No air is used while spinning is running and most of special cleaning is done with small special brushes. Doffers mop off frames all over once each day. Two roll pickers pick back

Posed Exclusively for DURA BEAU

SHELLEY WINTERS

Starring in "Frenchie"

a Universal-International picture,
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TEXTILE FINISHES

SCHOLLER BROS., INC. • Manufacturers of Soaps, Softeners, Sulphonated Oils and Finishes • Collins & Westmoreland Sts., Phila. 34, Pa. • St. Catharines, Ont., Can.

and middle rolls top and bottom 20 sides each day.

Mill F. Spinner's job: piece ends and remove laps; creel; run out guides 4 times per shift; pick top clearers 2 times per shift; clean scavenger rolls 2 times per shift.

Doffers blow off heads and foot ends, rockers, rails, pick spindles, take down bad work, and blow out bobbins.

Cleaner's duties (22,000 spindles per job): brush spindle rails twice per 8 hours; wipe roving all sides once per week each shift; wipe back guides, ⅓ side once per week each shift; clean revolving top clearers, ⅓ side once per week each shift.

DATA ON THROWOUTS AT B-C SPOOLER

Mill No.	Per Cent Throwouts	Yarn Counts	Winding Speed	Type of Wind
B	5-5	5s to 25s	1212 ypm	Comb. and warp
D	14 22.5	12s 32s	1200 ypm 1200 ypm	Warp Combination
E	7.5	14.7s	1240 ypm	Warp
F	9	31s	1237 ypm	Combination
G	20	9.5s	916 ypm	Combination
H	22	8s	900 ypm	Combination
I	25-30	6s to 23s	752-1216	Combination
J	30-35	9s to 30s	1200 ypm	Combination
K	15	4s to 17s	760-1200	Combination
L	15	10s to 17s	1200 ypm	Warp
M	——	4s to 20s	1050-1245	Combination

Automatic Builder Motion on Spinning. One man's comments regarding an automatic builder motion indicated that packages of more uniform size were obtained. 10% more yarn is put onto the bobbins, and spinners do not have to watch the frames closely when it is near time to doff. Although battery tenders cannot handle more bobbins, the bobbins run for a longer period of time in the looms. The builder motion referred to in this instance was made by Draper and has been in operation for approximately 6 months.

A speaker was asked how much extra work was necessary to maintain the builder motion. It was explained that once the motion was properly set no maintenance has been necessary.

Two mills had automatic builder motions on an experimental basis, but the units had not been in operation for sufficient time to report results.

Handling Tailings at B-C Spooler. Most mills reporting have several operatives to check tailings and straighten what they can. The remainder are usually sent back to spinning. If too many tailings are noted, the spinning department is posted to prevent a continuation of bad work. Small tailings are usually cut off or reeled off; others are sometimes sent to a tailings machine where they are wound off.

A procedure for handling tailings as practiced by one mill is as follows: The spooler tender checks pieces that go to the bobbin pan, and any pieces that are large enough to run on spooler are put in yarn troughs and run by spooler tenders. Pieces that can't be run by spoolers are put in the bobbin box for tailings machine operator who takes small pieces of paper bobbins and all tangled yarn to tailings machine.

Combination build tangled yarn is straightened out and returned to the spooler. Tangled warp wind yarn is run on a cheese when possible on a tailings machine. Small pieces on wood bobbins are cut off by yarn men. Where bobbin shows through the yarn, it is called a small piece. The foregoing method of handling throwouts and tailings permitted one mill to secure an 85% reduction in cut yarn waste.

Wool Advisory Committee Reviews USDA Research

The Wool Advisory Committee at a recent meeting with representatives of the U. S. Department of Agriculture discussed research concerning the production, utilization, and marketing of wool and wool products.

Specifically, with respect to utilization research, the committee recommended that additional emphasis be given to the following lines of research:

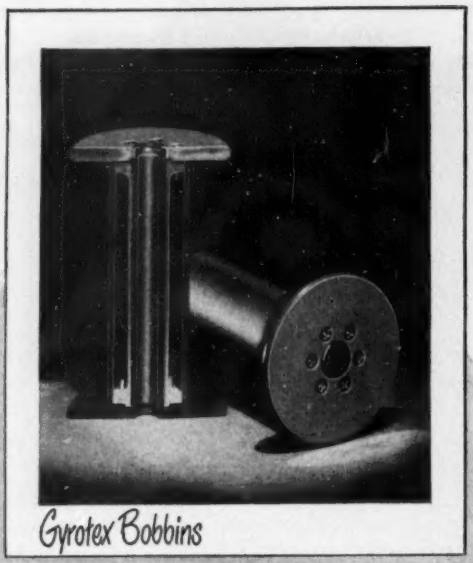
(1) Conduct chemical and physical research to provide a basis for modifying the characteristics of domestic wools so they might compete more favorably with foreign wools and synthetic fibers.

(2) Determine the fabrication, felting, and insulating properties of commercial sorts of wool from animals of known genetic origin, and to identify animals, strains, and flocks with respect to the fabrication, felting, and insulating properties of their wool.

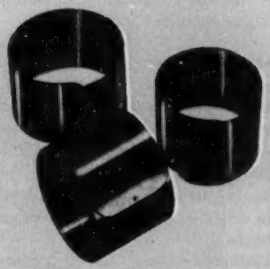
(3) Improve the quality of wool fibers through the development of better methods for cleaning and scouring grease wool.

(4) Develop new industrial uses for wool grease and other wool byproducts along with better methods of refining and modifying them for specific uses.

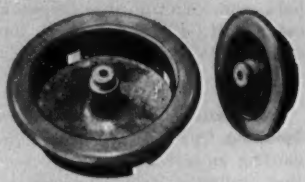
In the marketing field, the advisory group recommended that additional emphasis be given to the development of improved standards for wool and mohair and that such standards be furnished to customs officials at ports of entry.



Gyrotex Bobbins



Coke Spreaders



Twisting Caps

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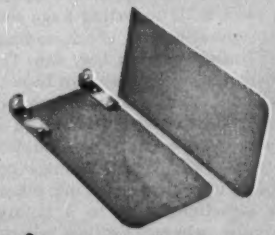
laminated plastics headquarters for the textile industry

Formica's outstanding qualities have won grateful recognition from the textile industry. This well known laminated plastic is half the weight of aluminum, has great strength, is corrosion-resistant and won't support vibration. Its surface is smooth, snag-proof. It resists chemicals, won't readily absorb moisture and has good dimensional stability. It can be molded, postformed or fabricated from sheets, tubes and rods.

This versatile material is used daily for almost a hundred different textile machinery parts. The right combination of Formica's electrical, mechanical and chemical properties can be put to work on *your* textile parts, too.

Bucket Covers



Separator Blades

Why not have your engineers communicate with our engineers today?
The Formica Co., 4694 Spring Grove Ave., Cincinnati 32, Ohio.

Special Finishes, Fatty Intermediates

IN THE November and December, 1950, issues of "Textile Industries" were presented abstracts of many of the papers presented at the 1950 annual convention of the American Association of Textile Chemists and Colorists held in Portsmouth, N. H. See pages 98-103 of the November issue and pages 133, 135, 137, 138, 141, 143, 181, and 182 in the December issue.

Because of the interest currently manifested by textile finishers in fatty intermediates and special fabric finishes, two additional papers have been abstracted and the information published here.

All papers offered could not be published in one issue because of space limitations.—The Editors.

The Inter-Relationship of Functional Properties Resulting from the Use of Special Textile Finishes

By DR. J. FRED OSTERLING
Quartermaster Research and Development Laboratories

WHEN the ultimate in a particular textile property is achieved in a fabric, other desirable characteristics suffer. The merits of a fabric are dependent on the integration of many factors.

It is possible to arrive at a better appreciation of the problem besetting the research worker, chemical producer, and finisher by listing the qualities frequently required or desired in a finished fabric, and by considering the inter-relationship of one to another.

For military fabrics there are 7 primary characteristics and 25 secondary characteristics to be integrated. End use of the item determines the number of characteristics operative for any one fabric and their degree of importance. It is often necessary to accept a working balance of the many factors involved.

Study of the accompanying table indicates the need for a water repellent fabric impermeable to rain and possessing the moisture-vapor permeability of an untreated fabric. Advances have been made in durable fire retardant treatments, but problems remain here dealing with lower add-on weight, color, flexibility at low temperatures, sewing quality, durability to leaching, outdoor exposure, and laundering.

Also, the perfect mildewcide or fungicide is yet to be found as is a completely effective mothicide durable to laundering and dry cleaning. Although shrinkage control of wool items is now a reality, hand and instability to ageing continue as related factors which must be circumvented.

(*Please turn to page 144*)

	CLOTHING FABRICS						TENTAGE FABRICS		
	Cloth, Cotton, Sateen, 5.0 oz. (Water Repellent, Mark III Application)	Cloth, Cotton, Herringbone Twill, 6.5 oz. (Fire Resistant, Water Repellent)	Cloth, Wool Serge, 18 oz. (Moth Resistant)	Cloth, Wool Flannel, 10 oz. (Moth Resistant)	Duvetyn, High Bulk, Shrink Resistant Treated	Flannelette, Weight 4.50 Ounces, Finish M-50, MS 204	Cloth, Cotton, Wind Resistant Twill, 9 oz.	Cloth, Cotton Duck 12.50 oz.	Cloth, Cotton, Sheeting 4 oz. (Fast Color)
PRIMARY	RELATIVE IMPORTANCE OF FINISHED FABRIC CHARACTERISTICS*								
1. Water Repellent	1	1	2	0	0	0	1	1	1
2. Fire Resistant	0	1	0	0	0	0	1	1	1
3. Mildew Resistant	0		0	0	0	0	1	1	1
4. Shrink Resistant	1	1	2	1	1	1	1	0	1
5. Crease Resistant	2	3	1	1	0	0	0	0	0
6. Moth Resistant	0	0	1	1	1	1	0	0	0
7. Color (Shade)	1	1	1	1	2	3	2	2	3
SECONDARY									
(1) Low Add-on Weight	1	1	1	1	1	1	1	1	1
(2) Breaking Strength	1	1	1	1	1	1	1	1	1
(3) Tear Strength	1	1	1	1	0	1	1	1	1
(4) Sewability	1	1	1	1	1	1	1	1	1
(5) Seam Strength	1	1	1	1	1	1	1	1	1
(6) Resistance to Yarn Slippage	1	1	1	1	0	0	1	1	1
(7) Wear or Abrasion Resistance	2	3	1	1	0	0	2	2	2
(8) Hand	2	2	1	1	1	1	0	0	0
(9) Drape	1	2	1	1	2	3	0	0	0
(10) Moisture-Vapor Permeability	1	1	1	1	1	1	1	1	1
(11) Flexibility at Low Temperature	1	1	1	1	1	1	1	1	1
(12) Non-Tackiness	1	1	1	1	1	1	1	1	1
(13) Cross-Resistance Colorfastness To:	1	1	1	1	1	1	1	1	1
(14) Sunlight	1	1	1	1	2	3	1	1	
(15) Laundering	1	1	1	1	1	1	0	0	0
(16) Perspiration	1	1	1	1	1	1	0	0	0
(17) Stability to Photochemical Degradation	1	1	1	2	2	2	1	1	1
(18) Durability to Laundering or Dry Cleaning	1	1	1	1	1	1	0	0	2
(19) Durability to Leaching	1	1	1	0	0	0	1	1	2
(20) Maintenance of Fabric Strength After Repeated Launderings	1	1	1	1	1	1	0	0	2
(21) Freedom from Objectionable Odor	1	1	1	1	1	1	2	2	2
(22) Non-Toxicity	1	1	1	1	1	1	2	2	2
(23) Compatibility of Finish with Metallic Findings	1	1	1	1	0	0	1	1	1
(24) Compatibility with Other Finishes	1	1	1	1	1	1	1	1	1
(25) Stability to Accelerated Ageing or Long Term Storage	1	1	1	1	1	1	1	1	1

*1 indicates primary importance; 2 secondary; 3 slight; and 0 not applicable

Improved Fatty Intermediates for Textile Finishing

By L. J. ARMSTRONG
Armour & Co.

DETERGENT, scouring, softening, water-repellent, and lubricant properties are imparted by the long, straight aliphatic carbon chain of the natural fats. Commercial development of fractional fatty acid distillation replaced the "pressing" techniques. Products made available included the full range of saturated fatty acids from caproic to stearic of a minimum 90% purity.

This provided for shorter chained fatty acids yielding agents with superior wetting and penetrating properties and better compatibility with strongly alkaline solutions. Commercially pure palmitic and stearic acids aided development of "handle" type finishes. Various blends of fatty acids were possible without limitation to the combination of acids which natural sources offered.

Tailor-made glycerides with superior fiber lubricant properties were made available. Catalytic homogenization has extended the sources of longer chained saturated fatty acids beyond tallow or palm oil to include such oils as cottonseed. In the same manner tallow fatty acids are fully hydrogenated to convert the unsaturated fatty acids to stearic acid.

Fractional distillation made available commercially pure saturated fatty acids, but solvent crystallization using acetone and methanol was developed for purification of unsaturated fatty acids. Superior initial color and color stability during further processing was effected. Continuous, high pressure splitting of glycerides has resulted in lighter colored fatty acids and glycerine suitable for many uses after a single distillation.

Derivatives. Fatty alcohols were derived from fatty acids by methods incorporating use of esters as raw materials and either catalytic hydrogenation or sodium reduction. Lauryl alcohol is highly accepted as a synthetic detergent when sulfated and neutralized. The longer chained alcohols are utilized in the production of non-ionic surface active agents and cationic compounds. The basic patents on fatty alcohol production are nearing expiration. This will tend to stimulate further use-research.

Nitrogen derivatives have become important textile finishing agents. Whereas the ammonium soaps are anionic surface-active compounds, neither the amides nor the nitriles are ionic or water soluble. Thus, the long-chained amides, particularly stearamide, find principle application in water-repellent compositions. The nitriles, improved in color and odor characteristics, find use as fiber lubricants and as intermediates for finishing agents.

Primary amine salts have a tendency to yellow on heating or ageing and are of little value in the direct treatment of textile fabrics. Secondary amine derivatives show improvement which persists in subsequently prepared quaternary ammonium compounds, and are more solvent-soluble and less water-soluble than their primary analogs. Indications are that the presence of two long straight chains within a single molecule provides more efficient softening action.

Consumers' Price Index to be Modified

Users of the Consumers' Price Index will be interested in a recent announcement from the U. S. Department of Labor regarding changes which are planned to improve the method of calculating the index. The indexes for September 1950 and some earlier months of this year are subject to revision a few months hence.

For the past several years the Bureau of Labor Statistics has been engaged in a large-scale project looking toward the revision and modernization of the basis of compiling all of its price indexes, to make them more accurate measures of price changes. The revision of the Wholesale Price Index and the Daily Index are scheduled to be completed this year, and the revision of the Consumers' Price Index is scheduled to be completed by the middle of 1952.

The original plan was that no important changes would be made in the Consumers' Price Index until the general revision was finished. Had prices remained comparatively stable, as they were during 1949 and early 1950, the index on its present basis would have served reasonably well as a measure of consumer prices until 1952. The events of the past few months, however, have forced reconsideration of the plans.

Developments have made it absolutely essential that the Consumers' Price Index be an accurate measure of today's and tomorrow's price movements. Therefore, certain modernizations and improvements which can be made immediately are being planned for introduction into the index.

These improvements in the index cannot be completed for several months. Nevertheless, they must date back to the period prior to Korea. Accordingly, the Bureau must do two things: (1) publish the index on the present basis for some months to come; and (2) when the improvements are introduced about the turn of the year, revise the published index back to some month of 1950 prior to the outbreak in Korea. The Bureau expects to publish both the present and the revised indexes during 1951, at least.

Information will be issued to users of the index when the changes are introduced.

CALCO dyelines

No. 18 of a series

PUBLISHED BY American Cyanamid Company / CALCO CHEMICAL DIVISION, DYESTUFF DEPARTMENT, Bound Brook, New Jersey

Specialty Uses of Screen Printing

While the process of screen printing is usually a hand operation, and hence is slower and more expensive than roller printing, it does lend itself to a large number of specialty uses. It is well adapted to printing materials of

all kinds, such as cotton, silk, viscose rayon, wool, acetate rayon and other specialty fabrics.

Some of the instances where screen printing is used are:

a. Short yardage runs
b. Patterns with a long repeat design
c. Unusually wide fabrics
d. Materials that pull out of shape easily

Beautiful fast color patterns can be produced on cotton and viscose by the use of Calconyl Powders or Solutions and Calco Soluble Vat Dyes. These dyes work well together in the same patterns to print luncheon and table cloths, napkins, scarfs, beach towels, ornamental scarves, dress goods, handkerchiefs, and a variety of other gay prints. Calco Soluble Vat Dyes and Calconyls, when used for such screen print applications, produce prints of good wash fastness and fair to good fastness to light. Full bright reds, yellows, and navy blues are usually produced with Calconyls; and bright blues, light shades, and other colors with Soluble Vats. If desired, Calcotex colors (resin bonded pigments) may be used in the same patterns to provide additional shades or effects.

How to Minimize Off-Shade Dyelots

Off-shade dyelots are kept to a minimum by:

1. Selecting dyes which possess good stability to atmospheric, drying and finishing conditions.
2. Rigid supervision and standardization of all dyehouse processes. Too many additions to a starting formula and too much manipulation of procedures are frequent causes of off-shade dyeings. Leaky equipment and dirty equipment are obvious causes of off-shade dyeings.
3. Careful sampling, drying and conditioning of hand samples.
4. Adequate records of all changes in shade which customarily occur between the passing of the hand sample in the dyehouse and the final inspection of the shade in the shipping room.
5. Clean working standards for shade, frequently checked against carefully protected master standards.
6. Illumination for color matching which is adequate in intensity, correct in spectral distribution. This should be kept scrupulously clean and should be frequently checked.

Calco Technical Field Service men are available on request to discuss the theory and the best mill practice to assure efficient dyehouse operation.

Calcocid Phloxine 2G

Bright, economical, light fast shades are desirable attributes for dyes to be used on sweater yarns and carpet yarns. Calcocid* Phloxine 2G has all of these properties in addition to good leveling qualities. It retains its clear brightness of tone in all depths of shade from a pink to a full red.

It can be used with Calcocid Fast Red BL Conc. for the red element of combination shades along with Calcocid Blue SA PG and Calcocid Yellow MCG for fading-on-tone properties. It also works well in combinations with Calcocid Fuchsine 6B to produce rich, economical maroons, with good light fastness.

*Trade-mark

For the Textile Bookshelf

Optical Bleaches in Household Soaps and Detergents (Calco Technical Bulletin #811) by E. I. Stearns, T. F. Cooke and H. E. Millson. Paper reprinted primarily for distribution to the soap industry, discusses fully the new whitening agents used in soaps and detergents, particularly those which are applicable to cotton.

Lightfastness Ratings of Vat Dyes on Cotton (Calco Technical Bulletin #813) by M. Babey, S. J. Luscian and R. J. G. Schofield. Provides the dyer with more complete and more exact information about the lightfastness of vat colors on cotton.

In 1949, 3382 X-rays and 1690 influenza virus vaccine injections were administered at Calco's Bound Brook plant.

but their production figures prove it

". . . the new Reading Machines are producing finer quality stockings, faster. They are averaging 15 dozen or more pairs every 8 hours."

• • •

The new "Reading" Machines are producing full-fashioned stockings of superior quality and at higher speeds than ever before possible. Many exclusive "Reading" features give higher precision in operation and greatly simplified control . . . 30 sections . . . 51 and 60 gauge.

TEXTILE MACHINE WORKS • READING, PENNA.

The "READING"
Full-Fashioned Knitting Machine

"Textile Industries" staff photos

MILL MEN CAME, in spite of the rain, from all sections of Georgia. The new auditorium at Georgia Tech's A. French Textile School was filled to capacity. Much helpful information was disseminated. Note recessed lighting and projection booth in background.

GUEST SPEAKER. Chairman of the Board **Norman Elsas,** of Fulton Bag & Cotton Mills in Atlanta, told of his recent visit to Europe and tour through an ultra modern Belgian cotton mill.

Georgia Mill Weaving Practices

*Staff Report**

Storing Warps. Five of the 13 mills giving their practice in storing warps are using unconditioned space for this purpose. Six mills are storing warps in conditioned areas. Both methods are employed in two mills. One of these mills reported no noticeable difference in warps stored under each condition. The other mill commented that warps stored in the weave room (conditioned) for a long period of time do not start up as well as warps stored in the slasher room (unconditioned).

In response to the question "What relative humidity do you consider necessary to keep warps at 7% moisture?" there was considerable difference of opinion. Answers ranged from 55 to 85 per cent by the ten mills reporting.

It was the concensus that if warp yarn is dried properly it will not shrink away from the heads of the loom beam. If yarn is not dried sufficiently it will shrink away from the head as it dries regardless of whether a presser roll is used or not.

Doffing Cloth from Looms. Representative methods described for doffing cloth at the loom to keep it clean and in good condition are presented here:

Mill A: The cloth doffer uses a piece of cloth to cover the roll of cloth when he is removing the cloth from the loom to the cloth truck. The cloth remains around the roll until it has been placed on a loading flat.

Mill B: Each cloth doffer has a small hand truck that will hold one roll of cloth. This truck is placed parallel to the loom and when the cloth is taken from the cloth rack it is rolled onto this truck. The loose end of the roll is stuck with industrial tape. The roll is then rolled to the spare floor and placed on a large cloth truck that holds approximately 40

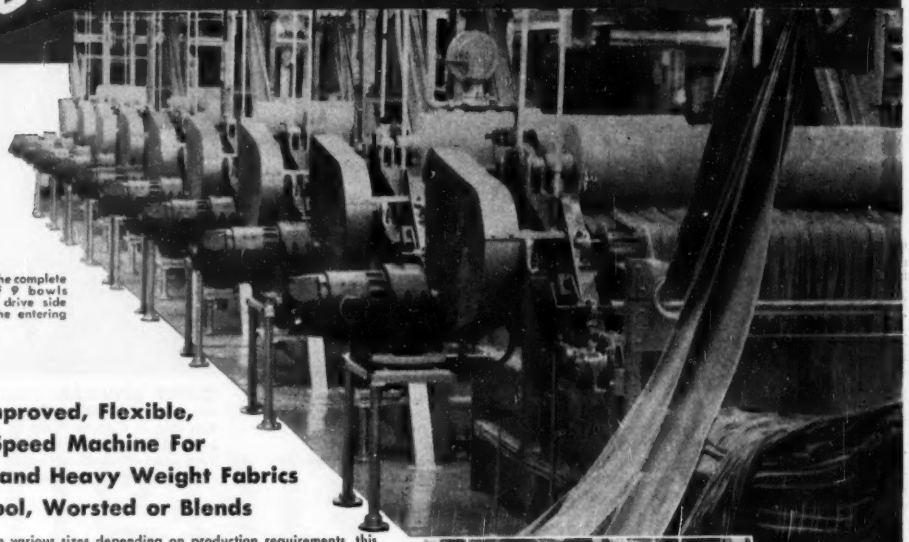
★ **Storage of Warps Prior to Weaving**

★ **Methods for Doffing Cloth at Loom**

*This is a continuation of the report of the fall meeting of the Textile Operating Executives of Georgia, held in Atlanta on October 21. Account of the Slashing Discussion appears in the December, 1950, issue. See pages 103-106.

The Fleet Line

NEW



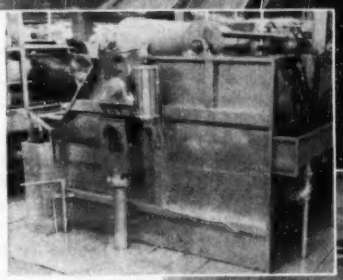
Showing the complete range of 9 bowls from the drive side and on the entering end.

An Improved, Flexible, Vari-Speed Machine For Light and Heavy Weight Fabrics of Wool, Worsted or Blends

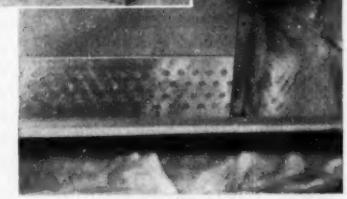
Made in various sizes depending on production requirements, this newly developed multi-dolly continuous washer offers many advantages in ease of operation, economy of water, simplified automatic synchronization, accessibility and reduced labor.

Among the many improvements over existing washers are:

1. Stainless steel construction throughout.
2. AC-DC drive with rheostat speed control — no side shaft to prevent easy accessibility. Variable speed according to number of bowls and operating conditions.
3. Positive counter current flow, with constant uniform predetermined liquor level in each tub. Made possible by R & L stainless steel Flooded Suction Low Head Pump.
4. New shape of tub for smoother operation and fewer stops for rethreading.
5. Each unit is kept in step by tensionless compensators. Cloth is tensionless throughout entire range.
6. Folding or plaiting cleat rolls provided for smoother operation and uniform treatment.
7. Provision can be made for flow of liquor to stop automatically when machine stops, effecting increased hot water savings.
8. Cloth fully protected against damage by electric stop motions.



Individual tub feed line of back water box and flexible hose through which water is pumped from weir compartment to next machine.



Looking down into stainless steel suds box. Perforated plate is adjustable weir to regulate depth of water in tub.

We will be glad to make recommendations on your particular washing problems.

RIGGS AND LOMBARD, INC.

FOOT OF SUFFOLK STREET, LOWELL, MASS.

The Fleet Line

A complete line of modern equipment for the successful handling of present day wet-finishing, carbonizing and dyeing requirements.

rolls. The cloth never touches the floor.

Mill L: Cloth dolly is placed in front of loom; cloth is spread over dolly; roll of cloth is doffed from loom onto dolly; cover cloth is wrapped around roll; roll is pushed on dolly to cloth flat.

Mill Z: Our cloth is doffed with an overhead electric hoist mounted on tracks that cover the entire weave room.

Cores for Winding Cloth. Practice is varied with regard to the type of mandrel or core used to wind cloth on at the looms. Twelve mills of 20 reporting use paper tubes of various types; two use metal pipes; two use wooden rolls; three use steel rollers; and one uses wood, steel, and paper.

Transferring Rolls to Cloth Room. The fact that power trucks are being used in six mills for transporting cloth to the cloth room and six mills are utilizing various types of conveyors for this purpose is indicative of the trend of improved materials handling at this point in the manufacturing process. Ten of the mills reporting are still using hand trucks; one of these is experimenting with electric trucks.

Reed and Harness Maintenance. Methods used by three mills for keeping reeds and harnesses in good condition are outlined here. Other mills employ similar methods with slight variations.

Mill C: Patterns are brought to the stationary tying-in room and here blown off and inspected. All worn or defective ribs, slats, ends, lock hooks, screw eyes, etc., are replaced. Any reeds that cannot be repaired with reed pliers and hammer are returned to the manufacturer for repairs. Interval: when warp is out or every two to six weeks.

Mill E: Warp men check patterns when leased out for tying-in machines. All bad patterns are cut out and sent to drawing-in room to be reworked and redrawn. A reed and harness man blows lint off harnesses, replaces broken and worn harness eyes, worn out rods, screws, etc. Reeds are brushed off with a wire brush and bristle brush driven with a small electric motor. This same man also cleans off all stop motion electrodes and drop wires.

Mill U: Harnesses and reeds are cleaned every time the warp runs out (twice weekly) with a brush and compressed air. The harness is cleaned thoroughly and gone over with a mixture of one part light oil and three parts shellac every six months.

A drawing-in machine is employed at this plant and, of course, steel heddles. All patterns are cut out and redrawn each month. At this time the reed is thoroughly cleaned and inspected. Harnesses are inspected at this time also, and all worn parts replaced.

At this point in the discussion someone from the floor asked how electrodes on electric stop motions are kept clean. A mill superintendent volunteered the information that in his mill they slack off on the warp and rub the electrode with crocus cloth and then wipe it with a cloth; interval, once every six weeks. Another mill superintendent said that this same procedure is used in his mill but the time interval is not fixed; it is done as needed.

Additional information on the maintenance of reeds was revealed by an analysis of the reports submitted. Four mills are using reed cleaning machines. Eight mills use oil of one type or another when storing reeds. Two cover the reeds with paper bags to aid in their preservation.

Lining Looms. The majority of Georgia mill men line their looms when a new shuttle is put in. Actually, 15 of 25 mills reporting follow this practice. Five mills line their looms as it is needed: one weekly; two every six months; and one replied once each year.

Likewise, 15 of the 25 mills reporting retain the reeds that were in use. New reeds are installed when looms are lined in 10 mills.

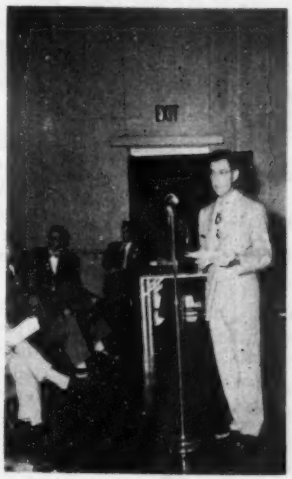
There was no agreement regarding a comparison of the finish on reeds manufactured today as compared with those available several years ago. Results: 11 feel that reeds today are better; 9 say they are the same; 5 think they are inferior.

Tie Marks on Baled Cloth. Customer complaints of tie marks on cloth that is shipped in bales have made it necessary for at least three of the mills reporting to take corrective action. In each instance cardboard was adopted for use under the burlap and the trouble eliminated. At another mill where this trouble developed, it was decided to use paper car-

Georgia Weaving Discussion

- ★ **Cores for Winding Cloth at Looms**
- ★ **Transferring Rolls to Cloth Room**
- ★ **Reed and Harness Maintenance**
- ★ **Lining Looms**
- ★ **Tie Marks on Baled Cloth**

ATHENS Manufacturing Company's superintendent, **H. T. Gilbert,** conducted the weaving forum.



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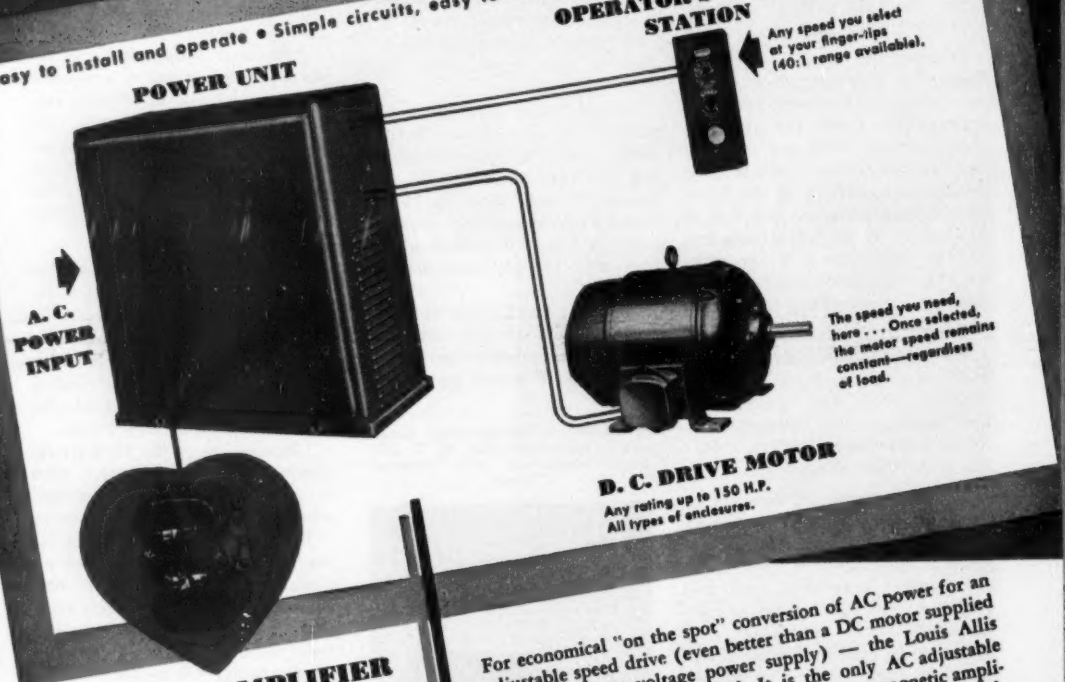
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tons and these have proven very satisfactory.

Paper Cartons. Satisfactory results were reported by six mills that are using paper cartons for baling cloth. Advantages cited include: Can put up more bales per hour; less expensive; there are no tie marks on cloth. Disadvantages: when cartons get damp they come apart; will not stand rough handling; cost per yard of fabric is greater.

Specific comments on paper cartons are contained in these mill reports:

Mill F: We are experimenting with paper cartons but as yet haven't been able to match a burlap bale as far as workmanship is concerned. Thus far it looks as if use of them will be cheaper. Tests have not been completed yet, however.

At that point, someone from the floor was interested in determining where the saving is made. It was stated that labor is saved because headers are eliminated. Also cardboard is less expensive now. Asked specifically what type of box is being tested, the mill spokesman described it as a telescopic, two-piece carton.

Another question inquired about availability of the carton. Apparently the supply is sufficient at the present time. Regarding the manner in which the cartons are handled at the mill, it was stated that they are dumped onto a chute in the cloth room and conveyed to the warehouse. Evidently, the paper carton withstands shock as well as the burlap.

Mill G: We have had some experience with corrugated paper cartons. On one particular type of goods we have used a case 36″ x 24″ x 37½″ with 5-inch caps at each end. This case was bound by three metal straps but the case was not compressed. The cost per yard on this basis is about 50% more and is used only for napped goods.

In addition to this, we are using a case 45″ x 35″ x 24″ with 12-inch caps. This case is bound by five straps and is strapped under pressure, giving us more yardage per case. This paper case is also used only for napped goods, and the cost is approximately 75% more for the material involved.

Mill L: We are using cardboard cartons on part of our baled goods and so far find them satisfactory. We are able to put up more bales per hour with cartons.

Georgia Weaving Discussion

★ **Paper Cartons for Shipping Cloth**
★ **Cloth Inspection Tables and Procedure**
★ **Cleaning Dobbies and Jacquards**
★ **Cleaning Harness on the Loom**

Cloth Inspection Tables. Cloth should move in a downward direction on the inspection machine for most efficient operation, according to the concensus of Georgia mill men. Of 18 mills reporting on this question, 12 prefer this method; 4 prefer cloth moving in the upward direction; and two mills feel that either way is all right. Those using the downward movement feel that it saves the inspector time since he can spot the imperfections as they approach him, giving him an opportunity to stop the machine in time to prevent his having to back the cloth up. Consequently, higher production and improved quality are obtained.

Cleaning Dobbies and Jacquards. The use of solvents in cleaning dobby heads is becoming widespread. In most instances solvent is wiped or sprayed on dobby parts and the head is blown off with compressed air. Some prefer to blow off the head first and then clean the parts with solvent. This is usually done when the warp is out. To prevent greasy and oily lint from getting on other looms and fabrics, one mill covers the head with a hood before blowing it off.

Other methods less frequently used: Blow off heads with compressed air and then remove all loose lint with a broom; blow off heads with compressed air; clean heads with brush; wipe heads with rag and then blow them off.

Only three mills reported their practice in connection with cleaning of Jacquard looms. Heads are blown off once each week in one mill; care is exercised to avoid blowing directly on oily or greasy surfaces. At the second mill, Jacquards are blown off every two weeks; this is usually done on the week-end. Heads are blown out and then sprayed with a light oil, according to the report from the third mill.

Cleaning Harness on the Loom. Following are representative methods presented for cleaning harnesses at the loom:

(1) Harnesses are cleaned with a brush by the weaver when a cut mark comes up on the warp. By so doing, if the cloth should get dirty or greasy while cleaning, it can be cut off.

(2) Clean heddles with brush;

VETERAN textile executive **E. H. Rogers,** general manager of Fulton Bag & Cotton Mills, Atlanta, introduced Mr. Elsas. **Robert W. Philip,** organization secretary-treasurer, may be seen at table in background.

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flap off harnesses with cloth.

(3) Harness cleaners cover warp and cloth. Then they use a 3-inch strip of cloth to go between the reed and the harness. A whisk broom is then used to clean the arch, wires, straps, and heads. On the harnesses they use a steel brush to clean heddles and harness slats. After this, they remove covers and pick off waste that has fallen on warp yarn. Weaver starts loom.

(4) Blow off with air hose daily. Thorough cleaning when cut out of loom.

(5) Use air at loom twice weekly. When warp is out, remove harnesses from loom and take to special room for thorough cleaning with brush and compressed air. Shellac at necessary intervals.

(6) Clean harness in loom with air when warp is out.

(7) Loom cleaner blows off harnesses every 24 hours.

Plastic Loom Sheaves. Plastic sheaves with Oilite bushings are giving highly satisfactory performance in eight of 16 mills reporting on this question. Another mill is well pleased with the sheaves on cam looms but finds it unsatisfactory for dobby loom service—life is too short (8 to 12 months). Two mills are pleased with the sheave itself, but trouble has developed in connection with the Oilite bushing. A green, greasy substance works out of the bushing and falls onto the cloth. In each instance wooden bushings have remedied this condition.

Long life is the principal advantage cited for the plastic sheave. Three mills reported unsatisfactory results with these sheaves, their primary complaint being that the rim breaks, often cutting and chaffing the harness straps. A mill that has used the sheaves for over five years advised that the sheaves have to be handled more carefully.

Fiber-Sided Shuttles. Performance of fiber-sided shuttles has not been satisfactory, according to replies from 12 of the 13 mills reporting their experiences with them. Favorable results have been obtained in one mill on C&K heavy duck looms (110 picks per minute); the fiber shuttle outlasts three wood shuttles. It was the consensus that for slow speeds the shuttles are satisfactory. On high speed looms the fiber comes unglued from the sides.

If a satisfactory bonding agent can be developed that will hold the fiber on at high speeds the shuttle might prove very popular. One mill superintendent who is still experimenting with these shuttles said that they have noticed that the fiber-sided shuttles are heavier than comparable wooden shuttles; therefore, a different power adjustment is required on the loom.

Aluminum Harness Frames. Experience with harness frames made of aluminum was limited. Five mills reported on the question. Four found them satisfactory. Use was discontinued in one mill because they were not rugged enough for the heavy constructions on which they were tried.

One advantage cited for these frames is long life. Hooks break, according to reply received from one mill, and there is no harness adjustment on the frame for height.

Drawtex Heddles and Frames. Seven of eight mills giving information on the operation of Drawtex heddles and frames were highly pleased with their performance. Four of the eight felt that the additional expense of these heddles and frames would be justified by increased efficiency and quality, even if the automatic drawing-in machine were not used in conjunction with it.

Benefits derived from the use of this equipment are presented in the accompanying box.

Metallized Sand Rolls. Georgia mills in which metallized sand rolls are being used are well pleased with results. Only one mill out of 10 that replied to this question had experienced unsatisfactory results and that was on looms weaving heavy goods. However, in two instances it was stated that care must be exercised to obtain the correct diameter of sand roll and also to utilize the correct pebble when spraying the metal onto the roll.

Mills reporting on this subject have tried the rolls on combed cotton fabrics, plain and fancy ticking, heavy fabrics, huck and crash towelling, and terry towelling. No breakage of fibers was observed. Picks per inch were not altered. Cloth marks that show up in finishing have not been experienced.

Vacuum Cleaning of Looms. Fair results have been obtained at two mills with vacuum systems for cleaning looms. Their replies are presented here:

Mill Q: On looms making print

(*Continued on page* 201)

Georgia Weaving Discussion

★ **Plastic Sheaves** ★ **Fiber-Sided Shuttles**
★ **Aluminum Harness Frames** ★ **Drawtex Heddles**
★ **Metallized Sand Rolls**
★ **Vacuum Cleaning on Looms**

Advantages of Drawtex Heddles and Frames

1. Heddles slide easily from one end of the frame to the other and do not bunch together.
2. Weavers', warp men's, and fixers' jobs have been simplified.
3. Upkeep is negligible.
4. Quality of cloth produced is improved.
5. Loom efficiency is increased.

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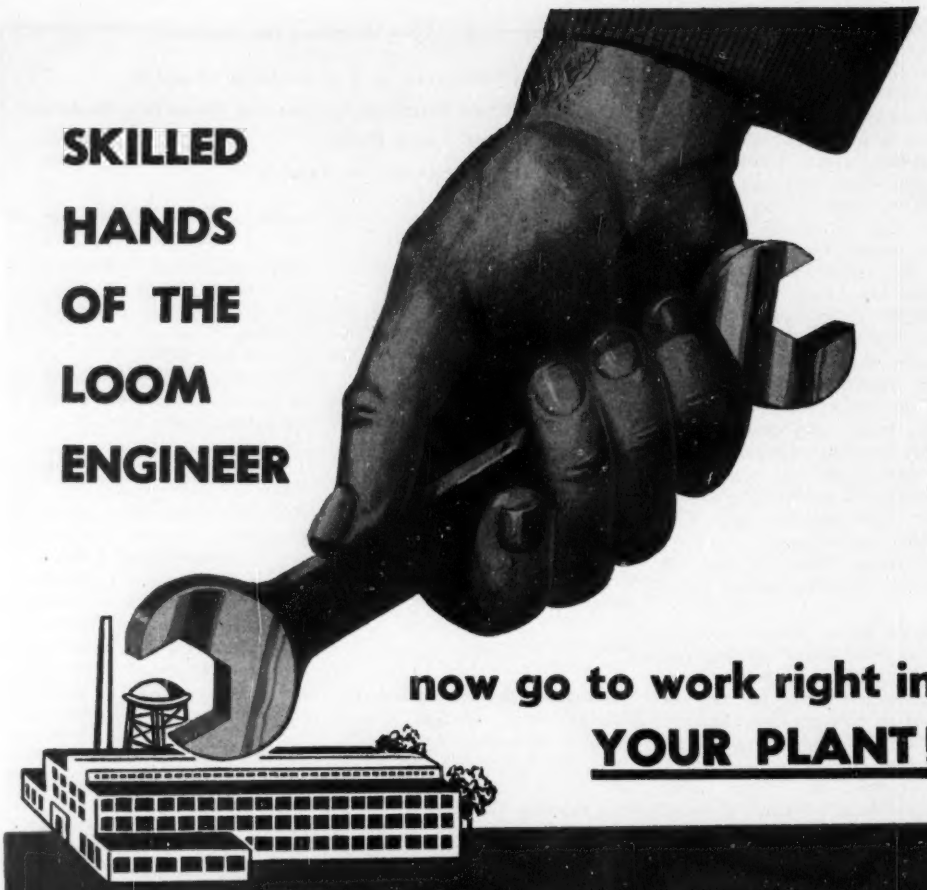

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LOOM MODERNIZATION SPECIALISTS

Seamless Hosiery Mill Finds that

Storage System Reduces Seconds

Hosiery storage bin numbers correspond with knitting machine numbers. Time lag before inspection by loopers minimized, and knitting machines are fixed in time to reduce seconds.

Staff Prepared

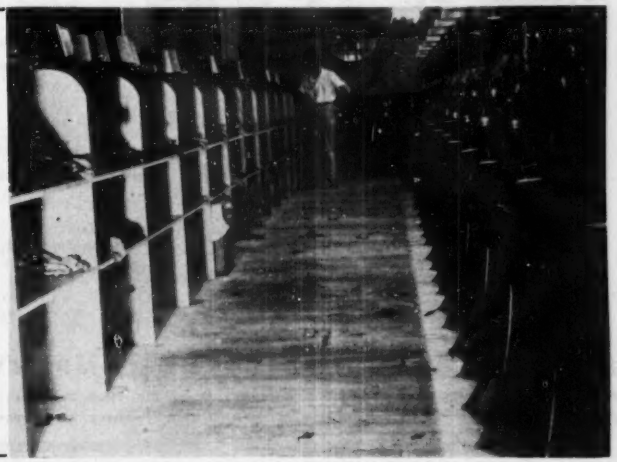
STORAGE shelves and bins help keep different styles of hosiery segregated and save time in correcting faulty work in knitting at Maryon Hosiery Mills, Carrollton, Ga. First quality hosiery is placed on the top row of shelves in separate bins in accordance with style and size. Seconds are kept in appropriate bins on the bottom shelves.

Located in aisles adjacent to each line of knitting machines, the bins are numbered to correspond with each machine on the production line. Hosiery is taken from the knitting machines as the work is knitted and placed directly into the bins where there is little danger of mixing grades or styles. After a sufficient quantity of socks has accumulated, they are tied in bundles of dozens and made ready for the looping and finishing operations.

The bins serve to expedite proper segregation of the hosiery, and there is less time lag between the time the loopers actually receive the work and the time the knitting department is notified of defects made by the machine which knitted the goods. The loopers notify the knitting department immediately upon receipt of work which was made defective at knitting. In this way the knitting machines are fixed much sooner than they would be if more time were required to separate the hosiery into bundles and batches according to style before they are taken to the loopers.

Many obscure defects which the knitter fails to notice in his routine inspection on the production line are caught by the loopers, and corrections are made in ample time to effect considerable savings by preventing an undue number of seconds being knitted before the offending machine is fixed.

SHELVES ARE PROVIDED for each line of knitting machines, as shown here. Each bin is numbered to correspond with a machine on the production line. Thus, hosiery made on each machine may be placed in its proper bin. When a sufficient quantity of goods has accumulated in the bins, bundles are prepared and taken directly to loopers. Defects attributable to faulty knitting machine operation are immediately reported and corrective measures initiated.



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W . . . which will increase output to the point where your old frames can be made competitive, both in quality and quantity of production, with new frames.

S . . . Send us your inquiries. We will be glad to have one of our representatives survey and estimate your frames without obligation, within their territories.

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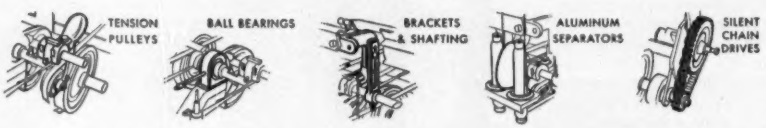

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Eastern Carolina STA Meeting

Staff Prepared

THE EASTERN Carolina Division of the Southern Textile Association met in the Erwin Auditorium, Durham, N. C., on November 11, and, after a short general meeting, divided into two sections for discussion of operating problems. One section devoted its attention to carding and spinning, while the other took up problems in weaving.

Carding and Spinning. J. R. Meikle, general superintendent, Rosemary Manufacturing Co., Roanoke Rapids, N. C., acting as chairman of this section on carding and spinning, first called on a mill representative to tell of his mill's experience with the new U-type pin and cradle on spinning frames. This arrangement uses the same aprons, but the pins which hold them are built in one piece and in the shape of a U. This holds the aprons close together, and the arrangement is, according to the manufacturer, an improvement over the old, separate pin style.

This mill representative gave considerable data showing an improvement in yarn resulting from the use of the new cradles. When the new type was used on a spinning frame furnished by the manufacturers, the yarn produced (32s carded warp with a twist multiple of 4.55, made from 3.00 hank, double creel roving) showed a break factor of 2288 against 2010 with standard frames and cradles. This indicated a 13.85% increase with the new cradles. This mill reported considerably better evenness in the yarn as indicated by an electronic evenness tester.

The superintendent of another mill stated that they had just begun using this system and were spinning 30s warp from 1.10 hank roving. Both break factor and evenness were improved.

Another participant in the meeting stated that they were able, on 32s yarn, to go up to a draft of 32.7 and still maintain breaking strength. Still another mill had found that 22s yarn made of .80 hank on the new pin and cradle was just as good as the same size yarn made from 1.00 hank on the old pin and cradle. This meant a change in draft from 23.40 to 28.90. On the other hand, with coarser yarns, 16½s in this instance, the new pin offered no advantage. They had found that the new pin and cradle does not help much when the draft is 20 to 22 but does help increase breaking strength on drafts between 22 and 28.

Waste in Opening and Carding. The next question dealt with the amount of waste taken from each machine in the opening line. Percentage waste at each stage through carding for two of the mills is shown in the table.

There was considerable discussion at this point as to the proper speed for card flats. One participant contended that the amount of waste is about the same regardless of the flat speed. But, he claimed, by slowing down the speed, more dirt and tangled fibers and less good cotton are removed by the flats. Several of the mills present using speeds of 3.5 inches per minute agreed with this statement.

Pneumatic Rack Release. One mill representative gave a report on his experience with the new, pneumatic rack release for pickers. The greatest advantage, according to this report, is in the evenness of the lap. It gives a good firm

Waste Percentages

Opening through Carding

Cotton	Mill A Middling Grey—1 1/16		Mill B Bright Strict Low Middling	
Equipment	Type of Waste	%	Type of Waste	%
Blending feeder	Dirt and Fine Lint	.260	Dirt and Fine Lint	.240
Superior cleaner	.....	.....	Leaf and Dust	.340
Air Filter Type a	Lint and Dust	.180	.....	.....
Type b	Lint and Dust	.330	.....	.....
Vertical opener	Motes and Dirt	.500	Motes and Dirt	.782
Buckley beater 1.	.....	.....	Leaf and Heavy Motes	.653
Buckley beater 2.	.....	.....	Leaf and Heavy Motes	.319
Lattice opener 1.	Motes and Dirt	.620	.....	.....
Lattice opener 2.	Motes, Dirt and Leaf	.500	.....	.....
Picker	Motes, Dirt and Leaf	.940	Motes, Dirt and Leaf	.551
TOTAL thru Picker		3.330%		2.885%
Card		5.560		4.800
Invisible waste (est.)		1.000		.150*
Total thru Card		9.89 %		7.835%

*Note that estimate of invisible waste in Mill B is considerably less than in Mill A. If invisible waste is neglected, totals for waste through cards are: Mill A, 8.89%; Mill B, 7.685%.

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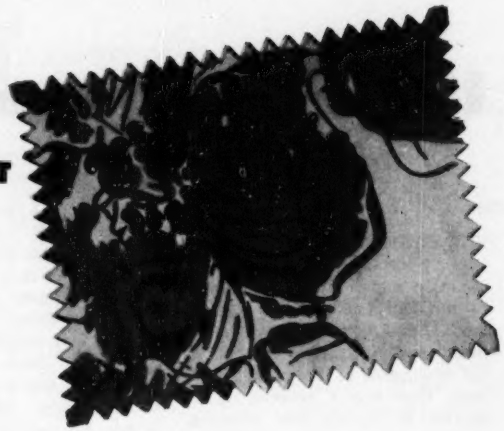

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package all the way to the end. A test lap made on a picker with a pneumatic rack release weighed 53 lb., 8 oz; was 54-75 yards long; and had a diameter of 16¼ in. A lap made on a friction machine, for comparison, weighed 45 lb., was 54 yards long and had a diameter of 17¾ in. The difference, it was explained, is in the fact that the first lap was firm from beginning to end.

This mill felt that these pneumatic releases were doing an excellent job and they recommended them. The only disadvantage lay in the fact that a failure of compressed air would shut down the pickers. The only solution suggested was the possibility of an auxiliary air line to take over in the event of failure of the regular compressed air system.

Worth Kirkman, assistant superintendent, Pilot Mills Co., Raleigh, N. C., tells the Carding and Spinning Section at the Durham meeting of his mill's experiences with the new U-pin cradles in spinning. J. R. Miekle, general superintendent, Rosemary Manufacturing Co., Roanoke Rapids, N. C., was chairman of this section of the meeting.

E. Forrest Kulp, district manager, American MonoRail Company, describes overhead loom cleaning to the Weaving Section of the Eastern Carolina Division, Southern Textile Association, at Erwin Auditorium in Durham, on Nov. 11. J. E. Shaw, Superintendent, Patterson Mills Co., Roanoke Rapids, N. C., was chairman of the section on weaving.

Weaving Section. J. E. Shaw, superintendent, Patterson Mills Co., Roanoke Rapids, N. C., chairman of the weaving section, started the meeting by introducing E. Forrest Kulp, district manager, American MonoRail Company, who gave a number of facts on the new system of overhead automatic loom cleaning. He pointed out that there are now three of these cleaning systems in operation, two over rayon looms and one over combed cotton. A fourth installation, over carded cotton, is now being contemplated.

The manufacturer claims the mills can get a 30% return on investment (at an installation cost of $55.00 per loom) in reduction of cleaning costs. With average conditions, looms are not blown off or wiped by hand in between warp changes. He further estimated that as much as 40% return on investment through labor savings is hoped for when the cleaner is used with carded cotton. These estimated returns are based on labor savings alone and do not include any improvement in quality of material produced. In this connection, tests run at one mill show a reduction of 3% in seconds after installation of the overhead cleaner.

The discussion then proceeded to other methods of loom cleaning. Most of the mills represented have regular and frequent loom cleaning by blowing off with compressed air. This blowing off is generally scheduled for every shift. Beyond this, the mills are scheduling thorough cleaning of looms every year or whenever the grease and oil deposits get so thick that it is impossible to keep a clean loom with compressed air.

Most satisfactory results are had by wiping the looms by hand, using rags and a good solvent. Several mills tried steam cleaning, but this was in no instance satisfactory. It dissolved the heavy grease but still left a thin film over the loom which held lint. Spraying with a solvent was also found to be less satisfactory than wiping.

Some mention was made of vacuum cleaning systems for looms, but none of the mills represented had found them satisfactory. They complained that the systems now on the market did not produce enough vacuum and that nozzle design was not what it should be.

Loom Overhauling. None of the mills represented has a scheduled program for loom overhauling. Looms are fixed by loom fixing crews whenever they begin to give trouble. Several of the mills do use extra or "head fixers" who do heavy or unusual work, but here again, no work is done in the way of preventive maintenance.

Several mills found that they could save money on loom fixing by using a runner to bring supplies from the supply room to the fixers rather than letting the fixers go after their repair parts themselves. Also, some of the mills found it wise to set up small supply chests containing the most used supply parts within the weave room. This saves much time in running after parts to a distant supply room.

Both sections of the meeting were closed at 12:30 and the members were served lunch in the Erwin Cafeteria.

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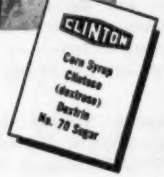

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Tenter Chain Clip

• Letters to Editor • Technical Discussion •
• Manufacturing Briefs • Kinks & Shorts Cuts • Comments from Readers •

Readers are invited to make use of this section for further discussion of published articles, or for discussion of problems arising in the plant. Names will not be used without permission. Payment is made for practical articles or for letters containing manufacturing information.

Address: Editor "Textile Industries," 806 Peachtree St., N. E., Atlanta, Ga.

Discussion on Figuring Blows Per Inch on Picker Beaters

Question Briefed: *Give procedure for calculating beats per inch delivered to stock passing through one process pickers. Is the best work (cleaning, etc.) performed on a relatively thin sheet of stock or on a thick sheet? What is considered the optimum number of beats per inch to secure maximum cleanliness with least damage to the fibers? Are high or low fan speeds preferable?* (CONTRIBUTOR No. 8229, *July*, 1950)

Editor, TEXTILE INDUSTRIES:

Some years ago, before the adoption of one process pickers, the number of beats per inch obtained in the picker room was an important indication of the amount of cleaning done in the picker room. At that time a superintendent or overseer who could not tell, without hesitating, how many beats per inch the stock received, was considered somewhat lacking in the qualifications for running his job.

Any "old timer" will remember when, with no opening machinery, the stock was put through a two-beater breaker picker, a one beater intermediate, and a one beater finisher. In other words, the stock passed through four beaters before the finished lap was produced.

It was not at all uncommon to use blade beaters in all of the machines, and the production per line of pickers was probably about one half that obtained on a modern one process picker.

In those days the total number of beats per inch obtained on a line of pickers was sometimes over two hundred. It might amaze some of those "old timers" to learn that with a modern opening room and one process pickers, the number of beats per inch obtained may be as low as fifty and is seldom over one hundred.

It can be readily understood that since, in present day prac-

CHART A

BEATS PER INCH

BREAKER SECTION—ONE PROCESS PICKER

$$\frac{\text{Breaker Beater Speed} \times \text{No. of Blades}}{\text{Inches per Minute Fed}} = \text{Beats per Inch}$$

INCHES PER MINUTE

S = Finisher Beater Speed
d^s = Dia. Blend. Res. Doffer Drive Pulley
f = Dia. Blend. Res. Feed Pulley

1st. Section—2½" Rolls—C2 & F2 Picker

$$S \times \frac{d^s}{18} \times \frac{f}{18} \times \frac{14}{90} \times \frac{34}{15} \times \frac{15}{26} \times \frac{19}{38} \times 2\tfrac{1}{2} \times 3.14 =$$

.00240 Sd'f Inches per Minute Fed

1st. Section—2½" Rolls—C4 & F4 Picker

$$S \times \frac{d^s}{18} \times \frac{f}{18} \times \frac{14}{90} \times \frac{34}{15} \times \frac{18}{60} \times \frac{19}{39} \times 2\tfrac{1}{2} \times 3.14 =$$

.00128 Sd'f Inches per Minute Fed

2nd. Section—2½" Rolls—C2 & C4 Picker

$$S \times \frac{d^s}{18} \times \frac{f}{19} \times \frac{14}{90} \times \frac{34}{15} \times \frac{15}{26} \times \frac{24}{52} \times 2\tfrac{1}{2} \times 3.14 =$$

.00267 Sd'f Inches per Minute Fed

CHART B

BEATS PER INCH
MODEL 5 FINISHER—NO. 7 EVENER
2 BLADE BEATER PICKING FROM PEDALS

S = Beater Speed d^s = Feed Pulley Diam.
c^s = Drive Sh. Draft Gr. c^s = Side Sh. Draft Gr.
e^s = Cone Box Gr. e^s = Evener Roll Gr.

$$\frac{S \times d}{24} \times \frac{c^s}{c} \times \frac{7\frac{1}{2}}{6\frac{1}{2}} \times \frac{3}{78} \times \frac{e^s}{e} \times 3 \times 3.1416 = \frac{Sdc^s e^s}{57.4ce} \text{ In. per Min.}$$

$$\frac{2S}{\frac{Sdc^s e^s}{57.4ce}} = \frac{114.8ce}{dc^s e^s} \text{ Beats per Inch}$$

EVENER LEADS / DRAFT GEARS	20–55			17–58			15–60		
	27/15	25/16	25/17	27/15	25/16	25/17	27/15	25/16	25/17
4	43.0	48.5	53.9	54.5	60.5	66.5	63.5	70.6	78.0
5	34.5	38.8	43.0	43.5	48.4	53.3	50.7	56.5	62.4
6	28.7	32.3	35.8	36.4	40.3	44.4	42.3	47.0	52.0
7	24.6	27.7	30.7	31.2	34.5	38.0	35.3	40.3	44.5
8	21.5	24.2	26.9	27.3	30.2	33.3	31.8	35.3	39.0
9	19.1	21.5	23.9	24.2	26.8	29.6	28.2	31.4	34.8
10	17.2	19.4	21.5	21.8	24.2	26.6	25.4	28.2	31.2
11	15.6	17.6	19.5	19.8	22.0	24.2	23.0	25.7	28.4
12	14.3	16.2	17.9	18.3	20.1	22.2	21.2	23.5	26.0
13	13.2	14.9	16.5	16.8	18.6	20.3	19.5	21.7	24.0
14	12.3	13.8	15.3	15.6	17.2	19.0	18.1	20.4	22.3
15	11.5	12.9	14.3	14.5	16.1	17.7	16.9	18.8	20.8

DIA. OF FEED PULLEY

CHART C

BEATS PER INCH
MODEL 5 FINISHER—NO. 7 EVENER
3 BLADE BEATER PICKING FROM PEDALS

S = Beater Speed d^s = Feed Pulley diam.
c^s = Drive Sh. Draft Gr. c^s = Side Sh. Draft Gr.
e^s = Cone Box Gear e^s = Evener Roll Gr.

$$\frac{S \times d}{24} \times \frac{c^s}{c} \times \frac{7\frac{1}{2}}{6\frac{1}{2}} \times \frac{3}{78} \times \frac{e^s}{e} \times 3 \times 3.1416 = \frac{Sdc^s e^s}{57.4ce} \text{ In. per Min.}$$

$$\frac{3S}{\frac{Sdc^s e^s}{57.4ce}} = \frac{172.2ce}{dc^s e^s} \text{ Beats per Inch}$$

EVENER LEADS / DRAFT GEARS	20–55			17–58			15–60		
	27/15	25/16	25/17	27/15	25/16	25/17	27/15	25/16	25/17
4	66.0	72.8	80.5	81.6	90.5	100	95.6	106	117
5	52.7	58.4	64.5	65.4	72.4	80.0	76.4	85.0	94.0
6	44.0	48.5	53.7	54.5	60.4	66.6	63.5	70.8	78.5
7	37.6	41.6	46.0	46.8	51.7	57.0	54.5	60.7	67.0
8	32.9	36.4	40.3	40.8	45.2	50.0	47.7	50.3	58.8
9	29.2	32.4	35.8	36.3	40.2	44.4	42.3	46.0	52.2
10	26.4	29.2	32.2	32.6	36.2	40.0	38.2	42.5	47.0
11	23.9	27.5	29.2	29.6	32.8	36.3	34.7	38.5	42.7
12	21.9	24.3	26.8	27.2	30.1	33.3	31.8	35.4	39.2
13	20.2	22.4	24.8	25.1	27.8	30.7	29.3	32.7	36.2
14	18.8	20.8	23.0	23.3	25.8	28.5	27.2	30.3	33.6
15	17.5	19.4	21.4	21.6	24.1	26.6	25.4	28.3	31.3

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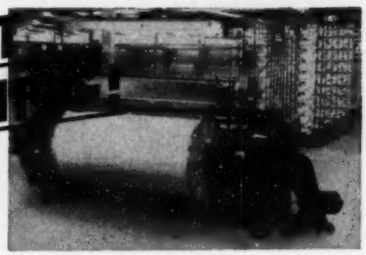

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tice, the stock passes through several opening and cleaning machines before reaching the one process picker, the figured number of beats per inch is no longer an indication of the amount of cleaning performed on the stock. However, it is still important to know how many beats per inch the stock receives in order to check on possible damage to the stock.

At normal speed of perhaps 1000 rpm a beater will not break an appreciable number of fibers, but it is reasonable to assume that the sharp blow of a beater blade traveling at approximately a mile a minute can damage the internal structure of the individual fiber, and that an excessive number of beats per inch will be reflected in a lower breaking strength of the yarn produced.

In calculating the number of beats per inch for a particular beater, it is not always convenient to actually count the revolutions of the feed roll preceding the beater to determine the inches per minute fed. To facilitate the calculation of beats per inch on a Kitson or Saco-Lowell one process picker with blending reserve the charts reproduced on page 161 have been prepared.

Chart A shows the formulas for calculating the beats per inch for the breaker section. The "C2" and "F2" pickers are fed by a hopper feeder, while the "C4" and "F4" pickers are fed by a rake distributor with reserve box direct to the feed rolls. It will be seen from Chart A that the first step is to determine the number of inches per minute fed for the particular section under consideration. It is necessary to know: (1) RPM of the *finisher* beater; (2) Diameter of pulley driving blending reserve doffer; and (3) Diameter of pulley on blending reserve doffer that drives the beater section feed. (Note: Some blending reserves are equipped with two-speed drives, and it may be interesting to compare the beats per inch obtained with high speed to those obtained with the low speed.)

Multiply 1, 2, and 3 by the constant to find the inches per minute fed. The number of beats per inch is calculated by multiplying the rpm of the *breaker* beater by the number of blades and dividing by the number of inches per minute fed.

Chart B and **Chart C** show tables for reading the number of beats per inch for the finisher section for a two-blade beater and a three-blade beater respectively. In these charts it is not necessary to use the rpm of the beater. Having determined the draft gears, evener gears, and diameter of the feed pulley, it is only necessary to look in the proper column and read the number of beats per inch.

Regarding the question as to whether the best work is performed on a relatively thin or thick sheet of stock, our experience shows that with the high production required today it is essential to have as thick a sheet as possible passing through the feed rolls in order to obtain a sufficient number of beats per inch to clean the stock. The character of the cotton being run determines to a large extent the weight per yard of the stock passing through the feed rolls. Very little can be done on a one process picker to change the weight of stock passing through the feed rolls.

On a one process picker that is fed directly from a reserve box of a rake distributor, there is usually between 80 and 90 ounces per yard passing through the first set of feed rolls. This may be varied slightly by reducing the volume of stock in the reserve box, but by doing so other difficulties may be encountered.

On the middle section there are approximately 35 ounces per yard passing through the feed rolls; this is governed by the amount of stock that the preceding screen section will handle. This could be varied somewhat by making special gears, but the results obtained would be hardly worth the trouble.

On the finisher section it is generally agreed that in order for the evener to perform satisfactorily there should be quite a thick sheet passing over the evener pedals. This usually amounts to about 56 ounces per yard and may be varied by moving the adjustable plate in the blending reserve.

It would be difficult to state any hard and fast rule for determining the optimum number of beats per inch to secure the maximum amount of cleaning without damage to the fibers. The number of beats per inch for a short staple, dirty cotton may be quite high without damaging the fibers;

Kink Contest

$ $ Your Idea May Win $100 $ $

This contest ends March 15, 1951

ONE HUNDRED DOLLARS will be awarded for the most helpful short cut, kink, time-saving device, cost-cutting suggestion, or quality improvement idea submitted by March 15.

Contributions eligible for the prize must not have appeared elsewhere and must not be sent to any other publication.

All material will be paid for at regular space rates upon acceptance irrespective of the contest winner. Advise when submitting entry if participant's name may be used. Only one award will be made in each contest.

Participants are not restricted as to number of items submitted to compete in the contest. Each entry should be described in sufficient detail to make it easily understood, and where possible, glossy photographs or pencil sketches should be included. Finished drawings are not necessary.

All entries for this contest must be postmarked not later than midnight, March 15, 1951. Address: Editor "Textile Industries," 806 Peachtree Street, N. E., Atlanta 5, Georgia.

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on the other hand if the same treatment were given to a fairly clean, medium staple cotton the fibers might be damaged excessively.

It is the writer's opinion that for 15/16" Middling cotton or better 70 beats per inch should give sufficient cleaning without damage to the stock. It must be remembered that the beating action of a carding beater is not so harsh as a blade beater; therefore if carding beaters are used in all sections, the number of beats per inch may be higher without damaging the staple.

When discussing fan speeds we must bear in mind the purpose for which a fan is used in a picker. Primarily a fan is used to create an air current to convey the stock from the beater and deposit it on the screens. In order to produce a uniform, well-sheeted lap, the stock must be conveyed to the screens in a brisk manner, without any rolling or swirling. It is, therefore, more important to insure a uniform, well-sheeted lap by using a comparatively high fan speed, even if by doing so some cleaning is sacrificed in the beater section. A high fan speed also removes more dust and fuzz.

Usually a fan speed of 1000 to 1200 rpm is adequate for a fan discharging into a well proportioned dust cellar. For pickers equipped with automatic air filters, a fan speed of 1400 to 1500 rpm is desirable.

CONTRIBUTOR No. 8322

Remedy for Cylinder Slippage On Mule Spinning Frames

This item was submitted in a recent kink contest.

EDITOR TEXTILE INDUSTRIES:

In mule spinning a great deal of bad work may be caused by "cylinder slippage." The slippage usually occurs at the first cylinder coupling situated each side of the headstock. These couplings work under considerable strain because they transmit motion to practically every part of the mule.

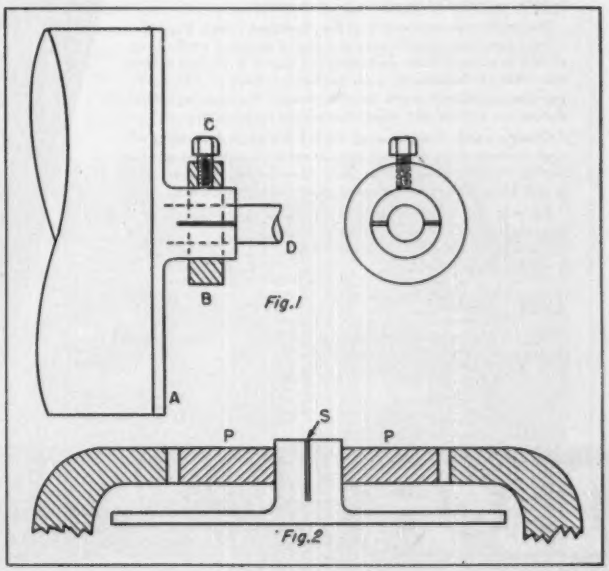
Stopping and starting the spindles when high spindle speeds are employed, or when coarse counts are spun, adds considerably to the strain put on these couplings. This is particularly evident on mules making use of a keen backing-off friction.

Sometimes the slippage may operate for hours, causing the production of long lengths of soft twisted yarn and much extra work for the spinner before all of the ends break. This condition usually causes a complete stoppage of production with all the attendant evils of bad piecings and snarls.

The usual type of headstock coupling is shown in Fig. 1 which also shows the method of fastening to the cylinder axis (D). The collar (B) has two set screws (C) situated at right angles to each other. The pressure of these screws on the split bars of the coupling is sufficient to make the connection, and at the same time maintain the concentricity of the cylinder.

Experience over a number of years with these couplings is evidence that the design of these couplings is good for keeping the cylinders true. Slippage is likely to occur too often after the coupling has slipped once and the shaft becomes slightly worn. In such cases, it was formerly necessary to replace both the coupling and the shaft with new ones. This was expensive in cost of labor, material, and loss of production.

To overcome this expense and at the same time improve quality by preventing all possibility of slippage, we adopted some helpful changes. The couplings were placed in a vise as shown in Fig. 2, with spacers (P-P), enabling the pressure of the vise to completely close the slot (S). The slot was then sawed again while in this position. Two saw blades were used side by side to make a wide slot. The couplings were then turned a quarter revolution and an additional slot was made at right-angles to the original and improved slot; again two saw blades were used to perform the



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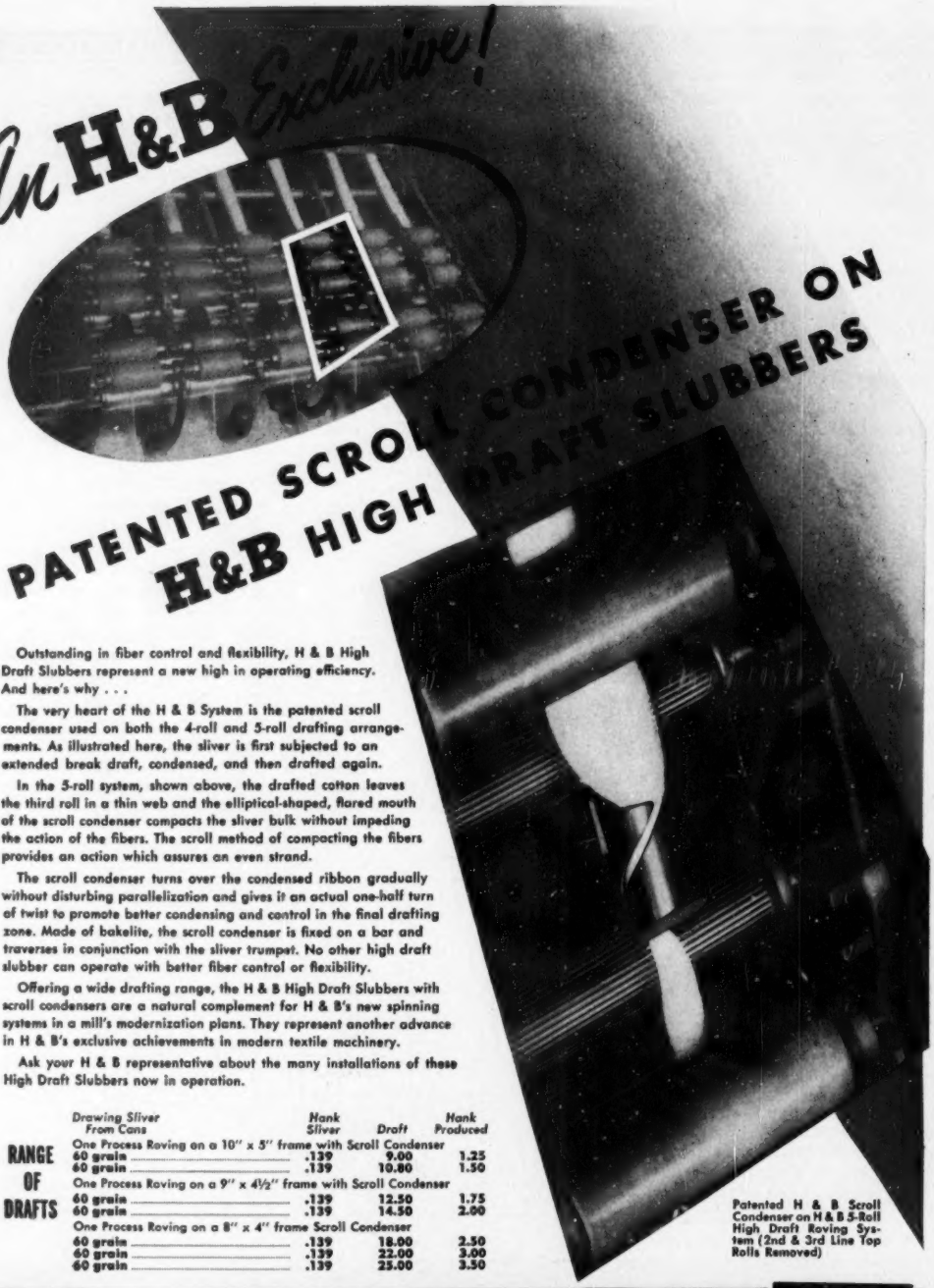

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The scroll condenser turns over the condensed ribbon gradually without disturbing parallelization and gives it an actual one-half turn of twist to promote better condensing and control in the final drafting zone. Made of bakelite, the scroll condenser is fixed on a bar and traverses in conjunction with the sliver trumpet. No other high draft slubber can operate with better fiber control or flexibility.

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cutting operation.

When replaced on the mule, still employing the old shafts, two collars are used, and the coupling never slips.

CONTRIBUTOR No. 8313

Comments On Care of Bobbins

EDITOR TEXTILE INDUSTRIES:

The cost of bobbins to run a medium size card room can run into a sizable sum of money, but a good quality bobbin, if given proper care, can be made to last indefinitely.

First, a good quality bobbin of correct size should be purchased. The better grades of bobbins are made of first quality hardwood and are properly finished to accurate measurement, then sanded and varnished or treated in some manner to protect the wood. The purchaser should specify the type of wood and the dimensions of bobbins when they are ordered. When the shipment is received it should be thoroughly checked before the bobbins are put into use.

Operators should be taught how to put bobbins on frames after doffing so the bobbins will not be damaged. If bobbins are slammed on the spindles it will be only a short time before they begin to split around the bottom and soon they will not fit properly on the spindle. Also operators should be trained to keep bobbins off the floor, not only because they present a safety hazard, but also because they are likely to be damaged. The correct way for bobbins to be put on a spindle is for them to be dropped on the spindle and not jammed on with force. If the bobbin is placed on the top of the spindle it will slide down into position without any further movement by the operator.

Improper cleaning methods ruin many bobbins. Roving bobbins are often removed from the creels of the spinning frame with part or a whole layer of roving still on them. This small amount of roving must be removed from the bobbin before it can be used again. There are three ways of removing this roving from the bobbins: (1) By using a bobbin cleaning machine; (2) cutting roving from bobbin by hand; (3) twisting roving from bobbin by hand.

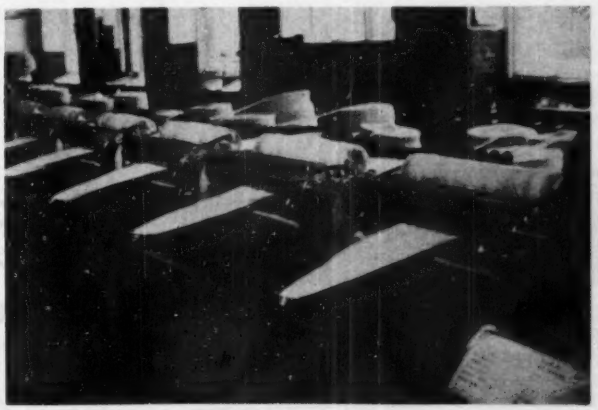
The bobbin machine is the fastest of the three methods and will do good work if it is properly adjusted. Bobbins with more than one layer of roving on them cannot be cleaned by this method. Care should be taken that the bobbin machine is properly set so that no wood is removed from the bobbin along with the roving waste. If much wood is removed the bobbins will soon become too small and will not function properly on the frame. Operator of the bobbin cleaning machine should check to see that no wood dust comes out with the waste. This method of cleaning bobbins is the most economical also because the waste as it comes from the bobbin machine is already broken up and does not have to go through a waste machine before being put back into the mix. Complete operating instructions should be given to all

Combination Clearer Proves Effective on Drawing Frames

Several mills are now using an arrangement on drawing frames whereby a revolving back clearer is used in conjunction with an oscillating front roll clearer to effectively maintain clean drawing rolls.

The revolving clearer rests between the two back rolls and receives its motion from them. A small bolt fastened off center and to each end of the revolving clearer serves as a journal for connecting rods which are attached to a flat piece of wood resting on the two front rolls. As the back clearer rotates, an oscillating motion is imparted to the flat clearer on the front rolls. The flat clearer may be covered on bottom with rubber, cork, or leather.

These clearers operate from 9 to 18 shifts without cleaning. When lint builds up on the back roll to a point where it comes in contact with the front clearer in its backmost position, the back clearer should be cleaned. Details of the clearer may be noted in the accompanying photo.



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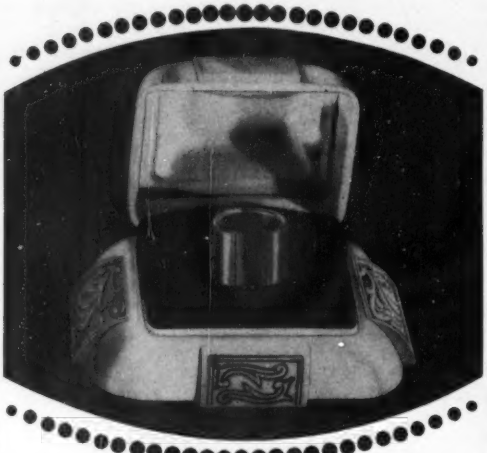

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operators of the bobbin machine.

Cutting the waste manually is a tedious way of removing waste, and the bobbin is usually injured by the knife blade in the process; also a safety hazard is present in this operation. Eventually operators become careless and cut the bobbins, and if a cut on the bobbin barrel is deep, a split may develop. This is an expensive way of removing roving and does not compare with a bobbin cleaning machine. Safety knives are used by many mills, and these knives decrease the chance of the operator cutting himself. If bobbins are cleaned in this manner a knife with a shield on it is recommended.

Twisting off roving by hand is a satisfactory way of removing roving from bobbins as far as bobbin life is concerned, but it is tedious and slow. Many mills require their spinners to run roving down until only a few wraps remain on the bobbins; then they twist this off as they creel the frame. This method reduces the amount of roving waste, takes no more time than the other methods and eliminates extra handling of bobbins which is conducive to longer life of bobbins. Most spinners can be taught to twist roving from bobbins without too much effort and without taking too much time.

CONTRIBUTOR No. 8345

Knitting Sample Follow-Up Expedited by Colored Bags

This item was submitted in a kink contest.

EDITOR TEXTILE INDUSTRIES:

I should like to pass along to your readers some information on a new system which we worked out several months ago for getting samples and rush lots of knit goods through the mill hurriedly and with a minimum of effort.

During the war, and for several months thereafter, it was not necessary to change styles very often, largely because customers were glad to get any styles and patterns that were available. The few samples that we made were easily put through the mill in that someone could follow up and get them through.

After the war the rush began, and every customer wanted his own individual patterns; then sampling became almost a business within itself.

In making samples of fancy patterns, we have to make about eight to twelve color combinations for each style. Taking into account the dozens of styles we have to make for each season, it is a job to get them through the mill without a delay somewhere.

We discovered that it was taking about half of our knitter foreman's time to follow-up samples and get them to the sample department. Something had to be done to correct this condition, and first we tried using a colored lot ticket on each bag. This didn't solve the problem because the bags were usually placed in a pile, and sometimes the ticket got under the bag where it could not be seen unless someone examined all the bags to find the right ticket. This practice consumed a lot of time and delayed the goods on the way to the sample department.

After studying the problem, we devised a system for quickly routing the goods through the mill. Several lot bags were dyed a bright red color. Everyone was instructed that these red bags were to be used for samples only. The department heads were instructed to watch for the red bags and see that they were processed and passed on to the proper department for subsequent operations. The operators were to lay aside any regular work and process the sample lot first.

This procedure operates smoothly, and samples get through with a minimum of effort on the part of each department. Each department head assumes his part of the responsibility for getting the samples through, and we are now wondering why we didn't think of this plan years ago. A problem with rush lots was overcome in a similar manner.

In preparing a lot for the dyers, or a run of ingrain goods for the boarding department, frequently we were short one or two small lots of some size or pattern. Sometimes after the lot reached the finishing department, they discovered that one lot was made wrong and it was necessary to give a "short" order. Oftentimes this lot had to be made over and processed all the way through the mill before the order could be shipped. Sometimes an order of two or three thousand dozens was held up.

It is necessary for short lots to get through the plant quickly. In order to rush these short lots through the mill, we had some lot bags dyed bright green, and we started all short lots in the green bags. Every department head was instructed that these lots must be given right-of-way over any regular lots. It is surprising how quickly these lots get through the mill. Any lot in either a red or green bag can be located anywhere in the mill within a matter of minutes. It was surprising to note the small number of colored bags required to do the job. The goods go through quickly, and the bags are emptied as soon as they reach the stock room; then they are returned to the knitting department ready to be used again in a matter of hours. This is a very simple system, but simplicity is one thing we like about it.

We trust that some of your readers, who may have had a problem similar to ours, will benefit from our experience.

CONTRIBUTOR No. 8315

What YOU can do to make the supply of Stainless Steel go further

1

Tell your supplier the exact purpose the Stainless Steel is intended for and how you plan to fabricate it. Then you will get the *right* steel for the job.

2

Minimize your scrap losses by ordering the size that will cut to best advantage.

3

Indicate, if possible, acceptable alternates in composition, gage, size and finish . . . it may speed up deliveries to you.

THESE SUGGESTIONS for conserving Stainless Steel are made to assist you during the difficult period we face today. The withdrawal of large tonnages of Stainless Steel — vital for rearmament — make it imperative that supplies of Stainless available for non-military use be made to go as far as possible. This can't be done without the close cooperation of everyone concerned — the steel producer, the steel supplier, and you, the steel user.

AMERICAN STEEL & WIRE COMPANY, CLEVELAND · COLUMBIA STEEL COMPANY, SAN FRANCISCO
NATIONAL TUBE COMPANY, PITTSBURGH · TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM · UNITED STATES STEEL COMPANY, PITTSBURGH
UNITED STATES STEEL SUPPLY COMPANY, WAREHOUSE DISTRIBUTORS, COAST-TO-COAST · UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS

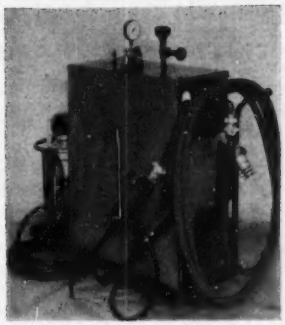
U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

1-309-A

UNITED STATES STEEL

NEW Equipment AND MATERIALS



Model JC-20 steam jet loom cleaner (Livingstone).

New Steam-Jet Loom Cleaner

A new steam-jet loom cleaner, similar in principle to the original Livingstone Model JC30-LCS Speedylectric cleaner introduced about a year ago, is said by the manufacturer to be equally effective, more compact, lighter, and more easily maneuvered in close quarters.

Requiring ⅓ less power, this new Speedylectric JC20 steam-jet loom cleaner can be plugged in at convenient locations in most mills without adding to present power lines, it is claimed. On 550-volt, 3-phase current, only 22 amps are needed for maximum output.

High pressure, dry steam from the built-in boiler is delivered to the steam lance, and under finger-tip control of the operator, directed at high jet velocity against parts of the loom to be cleaned. Where needed for cutting caked grease or water accumulations, the operator can instantly apply a concentrated solvent or detergent either alone or atomized with the steam at the jet.

The manufacturer points out that it is not contemplated that steam-jet cleaning will replace either compressed air or vacuum methods of routine daily cleaning in the weave room. Steam-jet cleaning is recommended once every six months or one year to remove sticky oil and grease, thereby making vacuum or compressed air cleaning more effective.

Actual tests under regular mill operating conditions are said to show that one man with one of these machines can clean the dirtiest of looms in 12 to 15 minutes, as compared with a minimum of 45 minutes for two men using ordinary hand methods.

Livingstone Engineering Co., Worcester 5, Mass.

For additional data, request item A-104, using business reply card on page 214.

Spool Moistening Device for Lap Winders

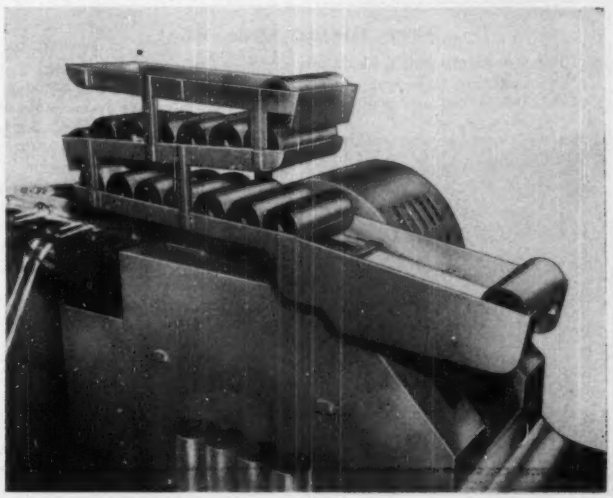
Waste caused by slippage between the sliver and the lap roll when starting new laps on lap winders is said to be eliminated by the use of a Spool Moistening Device recently developed.

The moistener consists essentially of a magazine feed which automatically moistens a spool and places it within easy reach of the operator, whenever the lap is doffed. Moistening is accomplished by having the spool roll over a cloth wick.

As the operator opens the safety hood to doff, a pin in the side of the safety hood trips a bracket and releases one spool which rolls down across the cloth wick where the surface is moistened. Wick is kept moist by absorbing water from a supply at the bottom of the magazine. Water contains a special wetting agent which assures immediate and positive adhesion to the spool, thus producing a positive and immediate friction between the spool and the ends of the sliver making up the lap.

Advantages: Runouts are improved and quantity of waste greatly reduced; decreases possibility of dam-

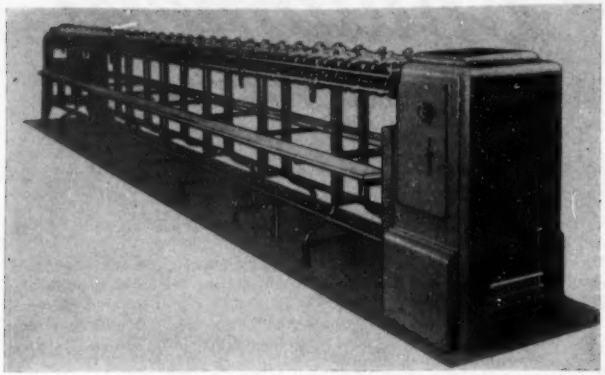
Spool moistening device on lap winder (Saco-Lowell).



NEW Equipment AND MATERIALS

New Winder-Redraw

The operation of a new type of winder-redraw is described as being



Automatic winder-redraw by Sipp-Eastwood.

age to comber needles due to bunching of sliver; operating efficiency of lap winder is increased; time formerly consumed in tucking ends of sliver around spool to start a new lap and subsequent waste created by discarding the bunch formed, are entirely eliminated.

Unit is easily applied to existing lap winders and is standard on all new machines, both 9 and 10½-inch models.

Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass.

For additional data, request item A-112, using business reply card on page 214.

as close to completely automatic as is physically possible. It has a self-threading tension, self-opening spindleless attachment, and full spool stop motion.

The washer type self-threading tension is fastened to the traverse rail and eliminates all threading operations. Gate type tensions are available with self-threading AlSiMag guides for nylon.

The full stop motion prevents overrun bobbins, it is claimed.

Drive and traverse mechanisms are enclosed in one unit and lubricated by a circulating oil bath. Traverse adjustment is independent on each side of the machine and can be set from 3½" to 7" without changing cam. Speed changes, winds per stroke, and changes for "S" or "Z" twist may be easily made.

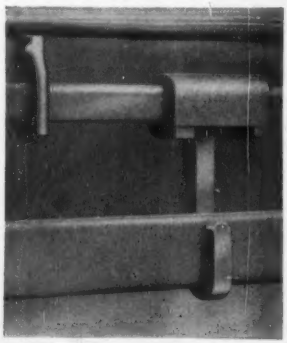
Available are single or double drive self-opening spindle brackets, and tachometer for easy speed readings.

Sipp-Eastwood Corp., 39 Keene St., Paterson, N. J.

For additional data, request item A-106, using business reply card on page 214.

Free Riding Slide Hook

This free riding slide hook, Model J-1, is said to make warps completely self-adjusting for silk type



frames. It is further reported that the slide hook does not angle or bind and therefore reduces labor costs required for frequent warp adjustments; it improves fabric quality by eliminating streaks.

Made especially for silk type frames for fine goods and worsted mills, the new slide hook is said to increase frame and rod life and eliminate streaks and other imperfections caused by poor warp distribution. It is designed to provide wide bearing area on the slide rod.

Walker Manufacturing Company, Atlantic and Ruth Streets, Philadelphia 34, Pa.

For additional data, request item A-105, using business reply card on page 214.

Durable Fire-Retardant Finish by American Cyanamid

A new, durable fire-retardant resin finish for fabrics, trademarked "Pyroset," retains its flame-repellent properties after 25 or more dry or wet cleanings, according to an announcement by the manufacturer.

Pyroset is available in several different formulations to meet specific requirements of various fabrics. In one formulation or another it has been approved by the Underwriters' Laboratories, Inc., the New York City Board of Standards and Appeals, the U. S. Coast Guard, and the York Research Laboratories, official laboratory of the Hotel Owners Association, the manufacturer states.

The finish is reported to have little effect on the "hand" of a fabric; there is little or no loss in tensile strength; treated fabrics are free from any tendency toward browning or discoloration when hung near radiators or heating outlets, and they do not become damp or soggy in wet weather; tests show no skin irritation or sensitivity.

Textile Resin Dept., American Cyanamid Co., Bound Brook, N. J.

For additional data, request item A-101, using business reply card on page 214.

New Polystyrene Fiber

Pilot plant production of a new polystyrene fiber designated Algil has been initiated.

The fiber is currently available in batting form, having a density of 0.75 pounds per cubic foot, although the density may be increased readily to any desired density up to 5 lb per cubic foot. The individual fibers are extremely fine in diameter; representative samples indicate that this diameter is but a fraction of the diameters of natural fibers such as cotton and wool.

Because of the extreme fineness of Algil fiber, its use as an air or gas filtering medium is suggested. Its complete resistance to acid and alkali

vapors may make it of particular interest in this connection.

An additional property, resulting from the extremely fine filament diameter and the fact that polystyrene itself exhibits no moisture absorption, is that Algil batting is extremely difficult to wet, and as a result, exhibits remarkable buoyancy properties.

Algil is said to be completely thermoplastic and may consequently find use in blends with other materials where the incorporation of a heat-sealing binder is desirable.

Polymers, Inc., Middleburg, Vt.

For additional data, request item A-103, using business reply card on page 214.

Softer Color Effects with New Fluorescent Tubes

DeLuxe Warmtone and DeLuxe Cool White Sylvania fluorescent lamps are now available in all standard sizes and wattages and in all Slimline sizes. The two new colors are said to give very soft and pleasing lighting effects. In industrial plants where a number of colors are used in the same area, the DeLuxe cool lamp provides a minimum of distortion and leaves all colors appearing equally clear and bright.

Sylvania Electric Products Inc., 500 Fifth Ave., New York 20, N. Y. (A-201).

Hand Tachometer Features Low Torque

The new Smiths Model A.T.H. 10 dual range hand tachometer features extremely low torque. Ranges are 0/1000 rpm and 0/5000 rpm. Each range is printed on dial in contrasting color. Guaranteed accuracy of 0.5 of 1% over the entire scale range. Pushbutton is provided on either side of instrument for releasing and/or holding pointer at the machine speed indication.

Equipoise Controls, Inc., 100 Stevens Ave., Mount Vernon, N. Y. (A-202).

Corrosion Resistant Heat Exchanger

A recently marketed heat exchanger employs corrosion resistant materials only as flange inserts and for the inner tube which contacts the fluid or vapor being heated. As a result, the manufacturer states that he is in a position to offer this exchanger at a much lower cost than one built entirely from corrosion resistant materials. Another feature is that a corrosion resistant joint is made without welding to the inner tube. Designated the "Econalloy" heat exchanger, it provides uniform heat over the full surface, saves space, can be supported vertically or horizontally along a wall or on hangers, and may be used singly or in groups. Easily dismantled for cleaning.

Martin-Quaid Co., 1884 Sedgley Ave., Philadelphia 32, Pa. (A-203).

Multi-Stage Pumps for High Pressure Applications

A new line of multi-stage centrifugal pumps, known as Class HMTA, are designed for a wide range of high pressure applications to 1200 psi and capacities to 1600 gpm. Built in 3", 4", 5", and 6" sizes with from three to nine stages, these pumps are said to be exceptionally efficient, easy to maintain, and dependable. Features: cylindrical - bore, horizontally - split casing and compact, unit-type rotor assembly; channel ring sections con-

NEW Equipment AND MATERIALS

NON-FLUID OIL
TRADE MARK REGISTERED

Assures Even Sliver from Cards

Uneven card sliver is usually due to Doffer and Top Flats out of adjustment because of bearing wear. Dripping, leaking oils do not prevent wear—they don't stay in bearings long enough.

Drip-less and waste-less NON-FLUID OIL stays in bearings, lubricating dependably until entirely consumed. For the same reason, it keeps off card clothing and outlasts oil—saving on lubricant and application cost.

We are prepared to furnish mills with skilled engineering service. Send for Bulletin T5 and free testing sample of NON-FLUID OIL.

NEW YORK & NEW JERSEY LUBRICANT CO.

292 Madison Avenue, New York 17, New York—Works: Newark, N. J.

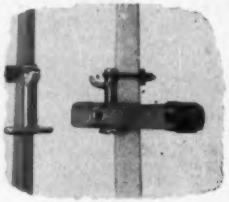
Southern Dist. Manager: Falls L. Thomason, Charlotte, N. C.

WAREHOUSES: Atlanta, Ga. — Birmingham, Ala. — Charlotte, N. C. — Columbus, Ga. — Greensboro, N. C. — Greenville, S. C. — Chicago, Ill. — Detroit, Mich. — Providence, R. I. — St. Louis, Mo.

NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.

HAMILTON PICKER STICK STRAP LUG

SOLD ONLY ON A MONEY-BACK GUARANTEE
SOLD ONLY ON A MONEY-BACK GUARANTEE
SOLD ONLY GUARANTEE
SOLD ONLY GUARANTEE
SOLD ONLY GUARANTEE
SOLD ONLY GUARANTEE



AT THE NEW LOW PRICE OF $1.00 PER LUG

Made from a specially developed metal, these hold-up straps have won wide acclaim from mill men throughout the industry because the straps virtually will not break nor wear out . . . one less place for you to be bothered with extra down time and constant replacements.

Many of the following customers placed a trial order first and have since reordered to equip additional looms with the Hamilton Lug: Bates Mfg. Co., Philip L. Sheerr & Sons, Spofford Mills, Inc., Almardon Mills, Inc., The Baltic Mills Co., Anniston Mfg. Co., West Point Mfg. Co., Southern Mills, Inc., Exposition Cotton Mills Co., The Monroe Cotton Mills, Avondale Mills, Dundee Mills, and others.

Our new policy is to sell direct to the mill and this, coupled with increased sales and lowered production costs have permitted us to make a new low price of $1.00 per Lug (minimum order 24). These Lugs come in two sizes and your order should specify for either 1½" or 2" strap size, or both, and number of each desired.

SATISFACTION OR MONEY BACK

We have built our sales on this guarantee because we expect to merit the complete confidence of all mill users. We say: Order as many or as few of the Hamilton Lugs as you want (minimum shipping order 24) and use them for 90 days. If you are not completely satisfied, return them to us and your money will be refunded *in full*. You be the sole judge because we expect you to be the satisfied user.

Use the coupon below . . . remember to specify size.

NATIONAL TEXTILE SUPPLIES, Inc.

P. O. BOX 193, STATION A • ATLANTA, GA.

National Textile Supplies, Inc.
P. O. Box 193, Sta. A, Atlanta, Ga.

With the understanding that if not satisfied after a 90-day trial from arrival of this order, that the Lugs may be returned and our money will be refunded *in full*, please send

_____ Lugs for 1½" Strap ($1.00 ea.), total $_____
_____ Lugs for 2" Strap ($1.00 ea.), total $_____

(Payment) (Purchase order) enclosed. Please cross out one.

MILL .....
Address .....
City ..... State .....
By ..... Title .....

NEW Equipment AND MATERIALS

tain multiple volutes and fluid passages, as well as renewable wearing parts for each stage; rotor assembly can be quickly and easily removed and replaced in the smooth bore casing since there are no mating ring fits or delicate alignment problems.

Ingersoll-Rand Co., Phillipsburg, N. J. (A-204).

Results of Clothing Study Available in New Book

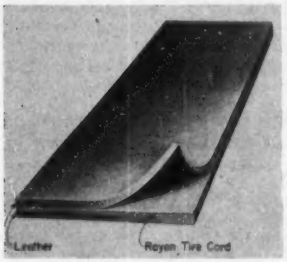
Physiology of Heat Regulation and the Science of Clothing, by L. H. Newburgh, is a 457-page collection of studies sponsored by the military services during World War II for the purpose of determining how man generates heat, what physiological changes take place during various types of activity and inactivity, and how clothing may be utilized to make him more comfortable under these conditions. (Published by W. B. Saunders Co., Philadelphia and London. Price, $7.50.) It is said to represent the first consolidated study of this subject and to be very complete in its literature coverage as well as in its report of original work specifically devoted to the basic problem of the military services.

Directional Valves Afford Multiple-Hazard Fire Protection

Through the use of directional valves it is now possible for any industrial plant to protect several unfrequented areas, where fire can start unnoticed, on a 24-hour basis with a single source of extinguishing agent. The supply source of the Multi-Space Fire Guard System comprises storage cylinders manifolded together for simultaneous discharge of carbon dioxide. The pipeline from the cylinder bank connects to a directional valve frame where there is a valve for each hazard space protected. From this frame a discharge line and a fire detector connecting line go to each hazard area. When the detector picks up the first signal of fire in any hazard space, it actuates the directional valve controlling the group of cylinders guarding that space and carbon dioxide rushes through the pipes to the space in danger and is discharged as an inert gas from the nozzles to smother the blaze.

Walter Kidde & Co., 1090 Main St., Belleville 9, N. J. (A-205).

NEW Equipment AND MATERIALS



"Anti-Stretch" belt (Schieren).

Flat Leather Belt Has "Anti-Stretch" Insert

A new type of flat leather belting incorporates rayon tire cord insert to assure stretch-resistance. It consists of a layer of rayon tire cords cemented between two layers of Schieren Duxbak leather belting.

Known as Schieren Duxbak Rayon-Core belting, it has many applications in the textile industry. Many of these belts are being used on strippers and as the eccentric belts on cards where a very straight running belt is desirable.

This type of belt requires no take-up over long periods of time to keep up the output speeds, resulting in better production. It is also ideally suited to a Rockwood or pivoted base drive since it allows longer periods of operation without having to adjust the base. It runs straighter on the pulleys.

This rayon insert type belt is very satisfactory on mule spinning frames where the belt is shifted frequently and where the low stretch characteristic can effect quite an improvement in total machine production over a period of time.

Chas. A. Schieren Co., 30 Ferry St., New York 7, N. Y.

For additional data, request item A-108, using business reply card on page 214.

Molded Fiberglas Finishing Truck

Moisture-proof, impervious to oil, grease and most chemicals, tough, extremely lightweight, and can be permanently colored—all of these advantages are claimed for a new finishing truck recently placed on the market.

It is of one piece molded Fiberglas

STANDARD EQUIPMENT ON

SACO-LOWELL'S
Shaw Long Draft
SPINNING SYSTEM

New . . . streamlined . . . oilless . . . the Slixonice back saddle with a durable plastic bearing was developed by Dixon in cooperation with engineers of the Saco-Lowell Shops. It is now used as standard equipment on the Shaw long draft spinning system.

Back roll lubrication and the danger of oil-soaked yarn are eliminated entirely because instead of cast iron, the new Slixonice saddle is equipped with long-lasting, low-friction and easily replaceable nylon bearings. This results in a streamlined saddle with considerable reduction in lint accumulation when in use. It permits accurate control of roll speed and weighting. The 1⅜" long bearing allows ample roll setting adjustments.

Since this Slixonice saddle is an integral part of the Shaw unit, this combined designing and engineering effort resulted in an improved saddle — precision designed to "do the job" — to function perfectly under all weighting and speed requirements of the long draft system. Present Shaw frames with cast iron saddles can easily be equipped with the new Slixonice saddle for economical, uninterrupted, dependable performance. Your Dixon representative has full details.

Old saddle types on other spinning frames can also profitably be replaced by Slixonice lock-in back saddles and Lubronze front bearing inserts. See your Dixon representative for more information on the complete Dixon line of saddles and saddle assemblies.

DIXON

NEW Equipment AND MATERIALS

construction with reinforced angle iron frame imbedded in the Fiberglas. Smooth, white inside finish with rounded corners is another feature. There are no bolts, screws or rivets to catch or tear cloth and no wood to splinter. Bottom is perforated. Available in three popular sizes. Wide variety of casters available.

Westport Fibre Corp., Westport, Mass.

For additional data, request item A-109, using business reply card on page 214.

Combination Motor Starter

Combining motor starter, motor protection, and disconnect in a redesigned enclosure to save space and increase safety, a new Life-Linestarter, Class 11-206-N, is available for across-the-line starting of squirrel cage induction motors or as a primary switch for wound rotor motors. Unit features new Life-Linestarter, AB De-ion circuit breaker, and slamproof self-indicating interlocked handle. Capacities from ¼ to 100 hp, and 110 to 600 V polyphase. Available in NEMA sizes 0 through 4 and various enclosures.

Westinghouse Electric Corp., P. O. Box 2099, Pittsburgh 30, Pa. (A-206).

Selenium Rectifiers for Converting Elevators to Alternating Current Use

Designed to provide low-cost elevator conversion from d-c to a-c, selenium rectifiers now on the market change a-c into d-c, allowing continued use of existing motors, controls and panel boards. Manufacturer claims long service record of no maintenance, lowered current consumption, smoother car control, high efficiency and power factors. Newest development is an efficient, economical regeneration control for high speed, gearless-traction drives. This device allows use of rectifiers as power supplies for all types of elevator motors. Foolproof control involves no rotating parts or tubes to replace.

Industrial Electronics & Transformer Co., 8665 South Main St., Los Angeles 3, Calif. (A-207).

Liquid Stainless Steel

The combined corrosion resistant properties of stainless steel and vinyl resins are offered in a coating recently placed on the market, called "Liquid Stainless Steel." It will adhere to wood, metal, concrete, brick, plasterboard, etc., imparting chemical resistance, moisture resistance, and abrasion resistance as required, according to the manufacturer. A Vinyl vehicle called "Vinoplast" is available to serve as a top coat over the liquid stainless steel under certain acid conditions where stainless steel might be affected. Also, a vinyl-chromate wash primer called "Vinylchrom" is available for use as an undercoater where severe corrosive conditions are encountered.

Slip-On Incorporated, 401 Broadway, New York 13, N. Y. (A-208).

Cut-Out Coupling

An automatic device for machine tools, processing equipment, conveyors, etc., instantly shuts-off the power when an overload due to any cause occurs and resets itself automatically, preventing sheared pins. It combines the features of a flexible coupling with the torque sensitive

LOGEMAN TEXTILE HOMOGENIZER

ENGINEERED AND DESIGNED SPECIFICALLY FOR
TEXTILE SIZING

HOMOGENIZED SIZE EFFICIENCY AT A NEW LOW PRICE

This new 1950 Logeman Textile Size Homogenizer is designed exclusively for textile manufacturers, to meet every specific requirement necessary in the preparation of superior warp size mixes.

Investigate this Logeman Textile Homogenizer now and let us prove to you its value and efficiency.

Write for complete details and prices

Southern Distributor
SOUTHERN SIZING COMPANY
ATLANTA 1, GEORGIA

ADVANTAGES OF THE LOGEMAN TEXTILE HOMOGENIZER

- PRODUCES UNIFORM SIZING AND CONTROLS SIZE VISCOSITY.
- REDUCES SHEDDING AND INCREASES WEAVING EFFICIENCIES.
- ELIMINATES SIZE COOKING AND REDUCES STEAM COSTS.
- SAVES TIME AND CUTS OPERATING COSTS.
- HEAVY DUTY — RUGGED DESIGN — SIMPLE ASSEMBLY WITH FEWER PARTS — CAPABLE OF CONTINUOUS HIGH PRESSURE OPERATION.
- PRESSURE HEAD CAN BE DISASSEMBLED FOR CLEANING AND REASSEMBLED IN 10 MINUTES.
- COMPACT DESIGN — LESS FLOOR SPACE REQUIRED THAN WITH OTHER HOMOGENIZERS.

C. W. LOGEMAN CO. 633 BERGEN STREET, BROOKLYN 17, N. Y.

NEW Equipment AND MATERIALS

protection of the Anchor Cut-Out pulley. Available in two sizes and with working ranges from 10 to 2,000 inch pounds torque.

Anchor Steel & Conveyor Co., 6906 Kingsley Ave., Dearborn, Mich. (A-209).

Electronic Hygrometer

For measuring and controlling industrial and commercial air conditioning, a new electronic hygrometer has been developed which, according to the manufacturer, adds to worker and machine efficiency. System includes a single-point ElectroniK recorder of a circular or strip chart type, with or without control, and a small element which does away with the use of human hair. The element makes use of gold leaf and a chemical salt solution that eliminates cleaning and other maintenance, it is claimed. Advantages: provides direct relative humidity reading without assistance of psychrometric charts; senses changes between limits of 20 and 93 per cent relative humidity; minimum span of 20% RH throughout range; available in all ranges with full temperature compensation between limits of 50 to 120 F.

Brown Industrial Division, Minneapolis-Honeywell Regulator Co., 4492 Wayne Ave., Philadelphia 44, Pa. (A-210).

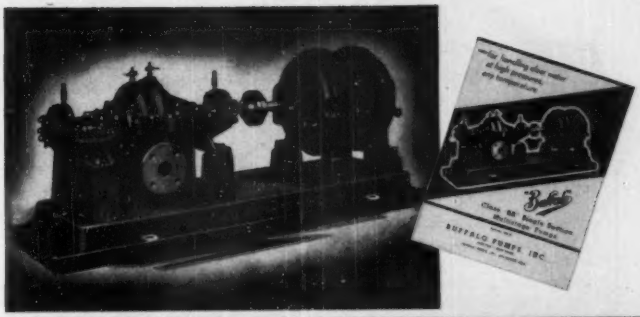
Variable Speed Transmission

A variable speed transmission series, incorporating the Worthington tandem belt design, is known as the Worthington Allspeed Drive. It consists of six models, rated at 1, 3, 5, 7½, 10, and 15 hp respectively and offers variations of 16 to 1, 10 to 1, 9 to 1, 8 to 1, and 6 to 1 respectively. Particularly suited to applications where space is limited. Handwheel and electrical remote controls are available.

Worthington Pump and Machinery Corp., Allspeed Drive Division, Holyoke, Mass. (A-211).

Protective Coating for Steel and Wood Tanks

A recently developed protective coating known as Carbo-Kote 6020 lines steel and wood tanks and protects floors for most corrosive services. Material is brushed on and hardens at room temperature, ac-

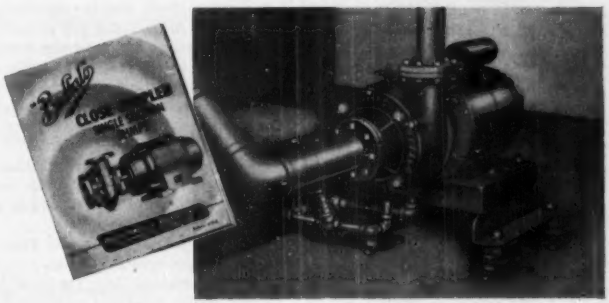


Many CLEAR WATER Pumping Problems *Cleared Up* in these Bulletins!

IF your concern is with boiler feed or other pressures to approximately 500 lbs. clear water, you will find that "Buffalo" Type "RR" Pumps have the characteristics you want—including high efficiency and long life on the job. BULLETIN 980-B, above, gives all engineering data.

For cramped quarters, you'll find "Buffalo" Close-Coupled Pumps pack a lot of capacity to the cubic inch. Vertical or horizontal installation. BULLETIN 975-B, below, has the facts on these sturdy, efficient pumps.

WRITE FOR YOUR *Free* COPIES!



"Buffalo" PUMPS
BUFFALO PUMPS INC.
175 MORTIMER ST. BUFFALO, N. Y.
Canada Pumps, Ltd., Kitchener, Ont.
Branch Offices in all Principal Cities
A BETTER CENTRIFUGAL PUMP FOR EVERY LIQUID

NEW Equipment AND MATERIALS

Five New Features on Hinnekens Boil-Off Machine

Squeeze and washing devices in a new boil-off machine provide effective removal of chemical elements used in the boil-off, according to the manufacturer.

1. An opener with rubber expanders opens the goods completely, so that there are no doubled up places to affect squeeze roll pressure or mark goods.

2. A squeeze roll device presses out the bath liquid remaining in the cloth and returns it to the bath tank. Loss of usable chemicals is prevented.

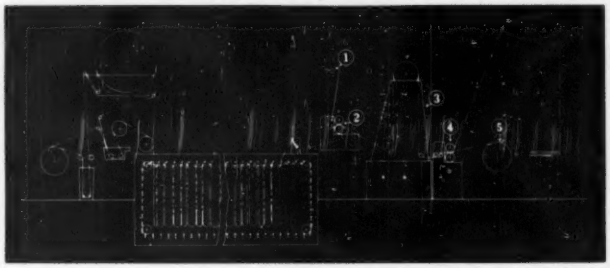
3. A stainless steel vertical spray washes the goods thoroughly to remove chemical residue.

4. Excess liquid is removed by a new squeeze roll, preparing the cloth for jig or similar dyeing.

5. A new take-up arrangement provides for rolling up goods, or a pleater arrangement can be provided for loading goods on trucks.

Hinnekens Machine Co., Inc., Paterson, N. J.

For additional data, request item A-102, using business reply card on page 214.



cording to the manufacturer. Withstands organic and inorganic acids, except nitric. Withstands 225-250 F when applied on steel or rubber, or 325-350 F when applied on wood.

Carboline Company, 7603 Forsyth Blvd., St. Louis 5, Mo. (A-212).

Radiant-Flame Compression Singeing Equipment

Designed to fulfill a need within the textile industry for better, faster singeing, new radiant-flame compression singeing equipment is recommended for acetates, broadcloth, damasks, drills, mohair, rayon twills, velour and mixture goods, as well as fabrics used for sheeting.

In radiant-flame compression singeing the singeing flame is pushed down and confined by the fabric. The cloth forms one side of a combustion chamber solidly filled with flame under pressure. This combustion chamber contains no excess oxygen—the nap is not burned, but is carbonized and carried away by escaping combustion gases. It requires only 1/15th to 1/25th of a second for the cloth to travel over the burner.

The installation embodies Series "S" industrial carburetor which is said to completely and accurately premix gas and air, and is unaffected by variations in feed-line gas pressure or by change in demand from burners. Once set to correct ratio, the carburetor can be locked at that setting, and need not be adjusted again. Excess oxygen is eliminated from the combustion area, it is claimed.

Burners are supplied in standard flame lengths, with the overall length of the burner two inches longer than the maximum flame length.

C. M. Kemp Mfg. Co., 405 East Oliver St., Baltimore 2, Md.

For additional data, request item A-107, using business reply card on page 214.

Pre-Shaped Steels Eliminate Many Machining Operations

Steel bar stock cold drawn in special sections to fit specific uses is now available. Minimizes or virtually eliminates machining operations in the quantity production of steel component parts. In some cases machining can be reduced to a simple cut-off operation. Types of steel available: Various standard SAE and AISI carbon steels, case hardening steel, standard mild steels, and free cutting steels.

A. Milne & Co., 745 Washington St., New York 4, N. Y. (A-213).

Leakproof Rotating Joint Maintained in Mill Shop

Efficient, economical operation with steam, air, or liquids from -30 F to 300 F is reported for the new, improved Deublin union. It will withstand a static air pressure test of 80 lb without leaking, the manufacturer claims. Stainless steel rotor, brass housing, and cast bronze component parts resist corrosive action. Unit is virtually frictionless. Flexible hose is all that is required to keep housing from turning. Lubrication is of the purge type. Periodic purging keeps bearing free from dirt for free running. Maintenance can be performed in mill shop. Union and cylinder can be "rodded out" without removing union from equipment. No wobble. Two types available: monoflow and duoflow. Union functions efficiently in either direction. Sizes: ½", ¾", 1", 1½" pipe sizes.

Deublin Company, Inc., Northbrook, Ill. (A-220).

History of Alabama Cotton Textile Industry

Recently published by the Alabama Cotton Manufacturers Association was *A History of the Cotton Textile Industry of Alabama 1809-1950.* The 141-page clothbound book contains five divisions: (1) The Early Days, 1809-15 to 1860; (2) Postwar and Reconstruction, 1865 to 1880; (3) Resurrection and Revival, 1880 to 1900; (4) Mystery Mills of the Years; (5) The Halfway Mark, 1900 to 1950. In the book's foreword Dwight M. Wilmhelm, executive vice-president of the Association, states: "There is far more still unknown about the history of cotton textiles in Alabama than there is known . . . In this work every effort has been made to get at the truth. Instead of rewriting those accounts that have been found, the parts pertaining to our people and their industries have been deliberately quoted, with the names of the authors, the subject of the original book or article, and the pages upon which they may be found. Perhaps this effort will add another link to the small chain of facts so far brought together."

(Continued on page 197)

helping you
make
COLOR
behave

One sure step towards consistent color satisfaction in dyeing and printing is to investigate the A.A.P. textile auxiliaries listed below. Technicians from our nearest branch will be happy to show how each has helped leading dyers, finishers and printers... *how each can help you.*

★ **LEVELENE** For wetting-out...preparing... dyeing...finishing. Dependable as a vat dyeing retardant and as a vat stripper.

★ **FASTOGENE** Gives amazing water-fastness in a simple after-treatment. For dyeing—printing—finishing of cottons, multifibres.

★ **STABILON** A *must* with Napthols. *Minimizes* crocking and brightens Napthol shades.

★ **DEPUMA** An *antifoaming* agent for printing—dyeing—soaping. Breaks foam in dye liquors and print pastes *without emulsifying or evaporating.*

For full information on these and other A.A.P. products, along with data pertinent to your individual problems, consult our nearest branch.

AMERICAN ANILINE PRODUCTS, INC.

50 Union Square, New York, N. Y.
Plant: Lock Haven, Pa.
Branches: Boston, Mass. • Providence, R. I.
Philadelphia, Pa. • Charlotte, N. C.
Chicago, Ill. • Los Angeles, Cal.
Chattanooga, Tenn.
Dominion Anilines & Chemicals, Ltd.
Toronto, Canada • Montreal, Canada

*Reg. U. S. Pat. Off.

AHCO PRODUCTS

DEEP UNIFORM ABSORBENCY

is yours

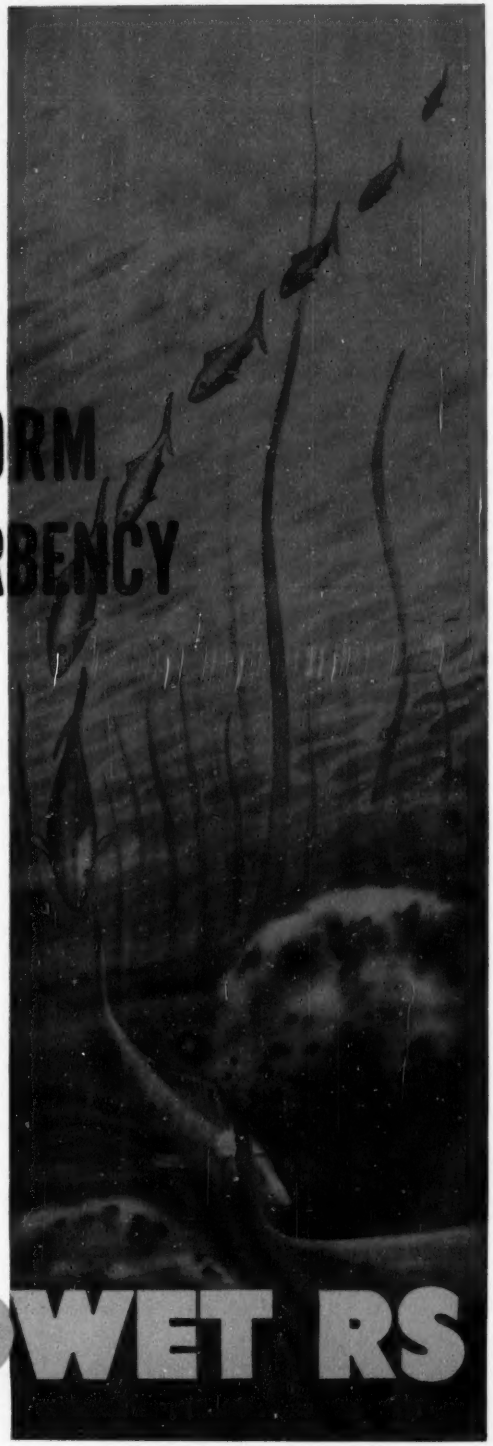
with AHCOWET RS

A SYNTHETIC SURFACE-ACTIVE COMPOUND

Here is the perfect answer to uniform absorbency for mechanically controlled shrinkage processes . . . the outstanding wetting agent for package dyeing.

Use AHCOWET RS directly in peroxide bleach baths . . . goods will be left more absorbent.

Ask for complete technical information.



ARNOLD, HOFFMAN

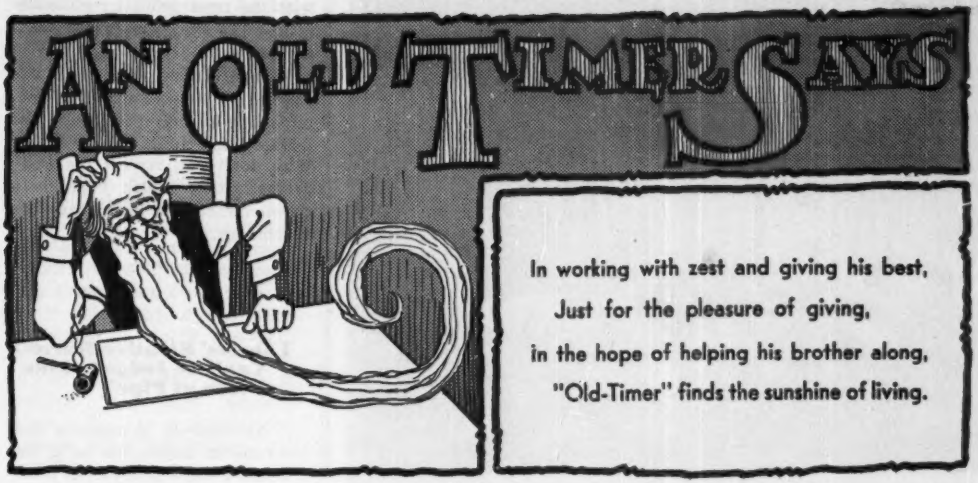
PROVIDENCE • RHODE ISLAND

Associated with
Imperial Chemical Industries, Ltd.
(DYESTUFFS DIVISION)
England

ARNOLD, HOFFMAN & CO., INCORPORATED • EST. 1815

Offices: Charlotte, Cincinnati, New York, Philadelphia, Providence
Plants: Charlotte, N. C. Cincinnati, Ohio Dighton, Mass.

AHCOWET RS


AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
in the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

Random Thoughts

Foresight. A thought for you young fellows who are hoping to make your mark in the textile business: Forget your present pay! Have foresight enough to plan for your future. Then the pay will be commensurate with your ability.

For example: The late James Simpson, head of Marshall Field and Company, was working for that firm for ten dollars per week, when he heard Mr. Fields' office boy was leaving. He applied for the job and got it. Because the office boy only got eight dollars per week, Simpson's friends thought he was making a mistake. It is not recorded what those friends thought several years later when Mr. Simpson's salary was $50,000 per year.

He had foresight. He knew it would be valuable experience if he could be in personal contact with Mr. Field and observe his methods of management.

Satisfied. If you have all the better things of life you wish, that is O. K. But if you would like a few more, then remember that thousands of successful men are endowed with no more natural ability than you possess. They simply apply their talents more vigorously than you do.

A Follow Up Thought. Did you read the OLD-TIMER article "Can You Dream?"? Well, here is a reminder of the vital importance of your imagination. The Chrysler Corporation pays over $5000 for an advertisement, a part of which says, "Imagination at Chrysler Corporation designs cars to fit the needs of the people who will drive them."

What are you doing with your imagination?

Lazy? Dr. Albert Edward Wiggam relates in his syndicated column as follows: Can a person of 40 or 50, *without* education, learn school subjects as well as young people?

Yes!

Psychologist J. P. Tilton studied prisoners *below* average intelligence at Sing Sing who never reached the seventh grade. They ranged from 17 to 54. With only two hours schooling per day, these adult men learned, on the average, 86% as fast as children do in grade schools with six hours a day.

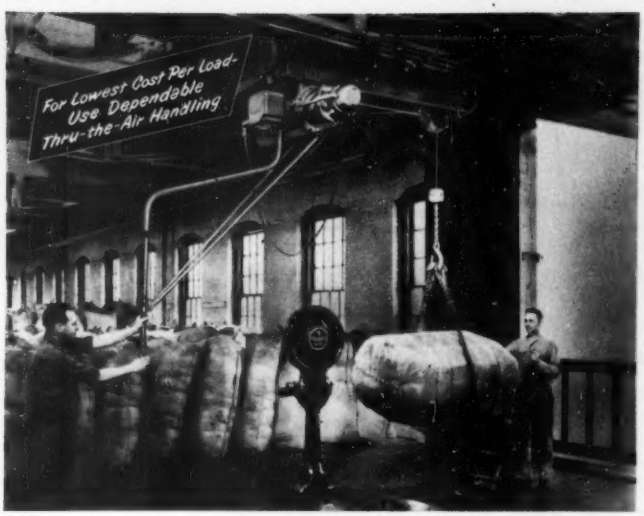
Now why in heck don't you set aside two nights per week to lock yourself in a room and do some constructive reading? Or do you want any more dollars than you are now making?

Words. You can't deal with employees or with your employer until you first learn how to manipulate *words*.

The instruction for work in a textile plant is conducted by the use of *words*. The manager directs the superintendent by using *words*. The superintendent directs his overseers by using *words*. The overseers pass those instructions along to their assistants, their section men, and operatives by the use of *words*.

Still, OLD-TIMER seems to have a heck of a time trying to prove to his readers that *words* are your most important tools and the gateway to your success.

Millions of dollars are spent daily—not annually—to put *words* before the buying public. The man



we start by asking "what"

WHAT are *your* problems? Under **WHAT** conditions will *your* hoist be operated—intermittently, or under fairly constant conditions? **WHAT** are the operating speeds necessary to meet *your* productive cycle?

Your answer to these and similar questions will enable us to engineer your installation so that it will give you the best, and longest service—at the lowest cost per load over the years.

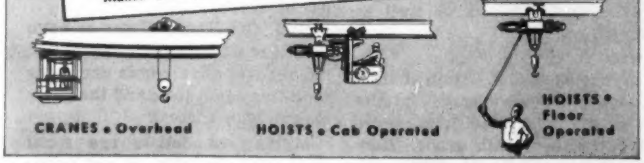
Be sure you get the hoist installation best qualified to do *your* job. It's wise—and costs you nothing—to get the facts first, rather than to make expensive changes later.

May we place our experience of a great many years of successfully designing all types of hoist installations at your disposal?

Shepard Niles

CRANE & HOIST CORPORATION

Makes and sells all three lifting tools for airborne shop loads



465 SCHUYLER AVENUE • MONTOUR FALLS, N. Y.

with the most prolific vocabulary is in 90% of the cases the most successful.

Yet, increasing a person's vocabulary is not a complicated matter at all. In fact, it is easier than learning the multiplication table. Why don't you review the OLD-TIMER article which explains a simple method for increasing your vocabulary.

Fabrics' Relative Warmth Can't be Judged "Like Piece of Pipe"

An entirely misleading and erroneous impression as to the relative warmth of fabrics made of different fibers is being created by a succession of "pseudotechnical comparisons of apparel fabrics," according to Giles E. Hopkins, technical director of The Wool Bureau, Inc.

Mr. Hopkins said that laboratories are judging the insulating and warmth properties of fibers in apparel fabrics as if they were examining engineering insulation material or a piece of pipe. This, he declares, is unrealistic and misleading. Many of the fibers touted as containing warmth qualities which protect the human body can actually act as an effective system to hasten the transfer of heat from the body to air outside the fabric, the Wool Bureau scientist declares.

"Warmth sensations of a fabric," Mr. Hopkins stated, "include moisture effects and textural effects which are not considered in building material insulation.

"Even when cold, the human body exudes water vapor as insensible perspiration. The way different fibers absorb, transmit or even assist this moisture to condense has an important influence on the heat losses from the body and whether or not a fabric made from a given fiber is warm."

Mr. Hopkins declared that there are three factors which determine the warmth retention

faculties of clothing fabrics. They are:

(1) The degree of skin-to-fabric contact, which is determined by the hairiness of the surface of the fabric, plays an important part in making a fabric warm or cold;

(2) The moisture retention and absorbency of a fiber has much to do with preventing sudden chilling on exposure to sudden drops in temperature or rapid movement of air;

(3) The heat of absorption produced in highly absorbent fibers on sudden exposure to reduced temperatures and high relative humidities actually creates heat to counteract the change in air temperature.

"These influences of the moisture considerations in the warmth of apparel fabrics are well known to most technical men and scientists," concluded Mr. Hopkins. "They are particularly important in comparing non-absorbent fibers with wool as wool has very superior absorptive characteristics and a minimum change in resilience characteristics when wet. These qualities are responsible for a large part of its justified reputation for warmth. It is, therefore, regrettable that they are so often ignored in pseudotechnical comparisons of apparel fabrics."

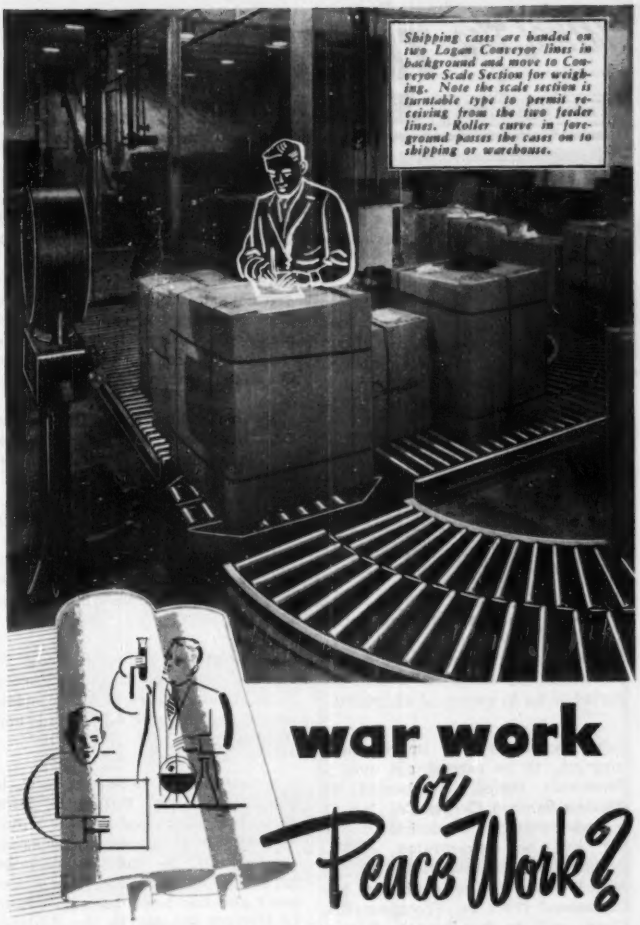
Glass Yarn and Fabrics Standards Available

Methods of testing and tolerances for glass yarn, woven glass fabrics and tapes, and woven glass tubular sleeving and braid are presented in the recently published second edition of the "A. S. T. M. Standards on Glass and Glass Products."

Included are procedures for testing breaking strength, yards per pound, twist, yarn diameter, organic content, thickness of woven fabric, etc.

Also, there are 425 definitions of terms relating to glass and glass products.

Copies of the 116-page publication can be obtained from the American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa. (price $1.50).


Shipping cases are handed on two Logan Conveyor lines in background and move to Conveyor Scale Section for weighing. Note the scale section is turntable type to permit receiving from the two feeder lines. Roller curve in foreground passes the cases on to shipping or warehouse.

war work or Peace Work?

Whichever you do, the problem is the same — *greater productivity.*

This problem is being solved in many textile mills by conveyors to (a) keep textile equipment operating at capacity (b) deliver work in process through spinning and weaving to operators at convenient working height (c) facilitate handling of incoming raw materials, and outgoing finished cloth.

Logan Conveyors assure maximum returns in each instance, due to Logan planning and engineering. Experience counts. Two generations of it are behind every section of Logan equipment.

Now is the time to conveyorize to the limit, so write for further information or for the nearest field engineer to call.

LOGAN CO. 75th ANNIVERSARY 1876 – 1951

Logan Conveyors

LOGAN CO., 206 CABEL ST., LOUISVILLE, KY.

What the TEXTILE MILLS are doing

John S. Parker is manager and principal owner of the newly organized **Par-Knit Hosiery, Ltd.**, Clinton, Ont.

A building now under construction at Mt. Pleasant, Tenn., has been leased to N. A. Malesky, New England hosiery executive, for operation of a hosiery mill. The new plant is expected to open about June 1, 1951.

Crompton Co., West Warwick, R. I., has acquired land at Osceola, Ark., for construction of a mill to be used for manufacture of corduroy and similar specialties. The entire project is reported to cost approximately $2,000,000.

Athens (Ga.) Manufacturing Co., one of the oldest textile mills in the South, was recently sold to **Chicopee Manufacturing Corp.** for a sum reported to be in excess of $2,000,000.

An expansion and improvement program, to be carried out over a three-year period, is planned by **Bigelow-Sanford Carpet Co., Inc.** It is understood that axminister weaving will be concentrated at the branch mill at Amsterdam, N. Y., with looms and other equipment being moved from the Thompsonville, Conn., mill to that branch. A new laboratory building is planned at Thompsonville, and erection of a new mill, site as yet undetermined, is in the program.

Columbus (Ga.) Fibre Mills Co. has let a contract for a one story addition to the plant, estimated to cost nearly $80,000, with equipment.

A one story addition, for manufacture of men's hosiery, is planned by **Holeproof Hosiery Co.'s** plant at Marietta, Ga. The new space will be equipped for expansion in the dyeing and finishing divisions.

Plans are under way for expansion in the filament rayon plant of **Rayon Peruana, S. A.**, Lima, Peru, to include additional buildings and installation of machinery to increase spinning capacity to 2,500,000 lb per year. Contract for this expansion program has been secured by Oscar Kohorn & Co., Ltd., 501 Fifth Ave., New York, N. Y.

An expansion program, designed to double production capacity of women's silk hosiery, is being carried out by **Wanco Hosiery Mill, Inc.**, Charlotte, N. C.

North Carolina Dyeing & Finishing Co., Greensboro, N. C., will increase production of nylon hosiery from 400 to 800 dozen pairs per day.

Claybourne Powell and Franklin Lewis of High Point, N. C., are principal incorporators of the newly chartered **Tex Elastic Corp.** Elastic thread of various kinds will be manufactured.

A one-story building in King, N. C., has been acquired by Harvey Pulliam, Mount Airy, N. C., to be improved and equipped for a dyeing and finishing mill.

A new plant at Lillington, N. C., is being erected by **Burlington Mills Corp.** It is understood that the building will be equipped as a rayon weaving mill, the cost reported to be in excess of $2,500,000. Announcement also has been made of a fund of $200,000 donated by the Burlington Mills Foundation for erection of a laboratory building to house a nuclear reactor to be constructed on the campus of the North Carolina State College.

The recently incorporated **Mint Hill (N. C.) Hosiery Mills, Inc.**, will operate a knitting mill. P. C. Whitlock and Robert Perry, Jr., of Charlotte, N. C., are principal incorporators.

The machinery and equipment of D. S. & W. Hosiery Co. in Reading, Pa., has been acquired by the recently organized **Arrow Hosiery Co.** Full fashioned and seamless hosiery will be manufactured.

The recently organized **Coronoa Hosiery Mills, Inc.**, Telford, Pa., has purchased mill and equipment of United Knitting Machine Co.

A tract of about 255 acres of land near Carlisle, S. C., has been purchased by the **Clearwater (S. C.) Finishing Co.** It is understood that a branch mill will be constructed, at a cost of over $12,000,000.

A mill for processing cotton waste will be operated by the recently organized **Poinsett Processing Co., Inc.**, Greenville, S. C., according to J. W. Egan, president.

Contract has been let by **Avondale Mills, Inc.**, Sylacauga, Ala., for construction of a multi-story building, to be used for warehouse service. The cost is reported to be in excess of $200,000.

Crescent Corp., Fall River, Mass., has purchased Ansonia (Conn.) O & C Co., the sale including Delite Fabrics, Inc., Westerly, R. I., and Taunton Mills Corp., Taunton, Mass., recently acquired by Ansonia. All mills will continue in operation under the name of Ansonia Mills, Inc.

A rayon weaving plant at Clarkesville, Ga., to be known as Clarksville Mill, is being constructed and will be operated by **United Merchants & Manufacturers, Inc.**

Plans are under way for construction of a two-story addition to the mill of **Columbus (Ga.) Manufacturing Co.**, for expansion in the cloth room.

Mary-Leila Cotton Mills, Inc., Greensboro, Ga., are planning construction of a one-story addition to the mill, to be used as an opener room.

Operations have been discontinued at the Assabet Mills of **American Woolen Co.**, located at Maynard, Mass. Two other woolen mills—Kennebec Mills, Fairfield, Me., and Mascoma Mills, Lebanon, N. H.—have also been closed.

Louis Cushing heads the recently organized **Hitchcock & Curtiss Knitting Co.**, Nashua, N. H. Gloves, mittens, etc., are being manufactured.

Additional knitting machines have been installed at **Ellisville (Miss.) Hosiery Mills, Inc.**, for increased production.

The former plant of Metakloth Co., Lodi, N. J., has been acquired by **Charles S. Fields, Inc.**, 152 West 42nd St., New York, N. Y., vinyl plastic fabrics, and equipment installed for operation of a new branch factory.

What the TEXTILE MILLS are doing

The mill expansion and modernization program in progress at **Bates Manufacturing Co.**, Lewiston, Me., has represented an investment thus far of $9,000,000. Production in 1950 was approximately 23% over that in 1949.

Libertyville Textiles, Inc., Grayslake, Ill., will change the company name to **Tumble-Twist Mills, Inc.**, according to Donovan Y. Erickson, president.

A mill building in Galt, Ont., is being remodeled by **Wool Combing Corp. of Canada, Ltd.**, to be operated as a branch wool scouring, carding, and combing plant.

A two-story addition, for expansion in the dyeing department, has been completed at the plant of **H. & F. Binch, Inc.**, Glens Falls, N. Y. A section of the building will also be used for tricot operations.

Scalamandre Silks, Inc., Long Island City, N. Y., have a one-story addition to their plant under construction. The space will be equipped for expansion in the dyeing department.

Hudson Hosiery Co., Charlotte, N. C., is establishing a branch mill at Stuttgart, Germany, to be operated under the name of Tauscher-Hudson-Strumffabrik. Certain equipment, including 15 full-fashioned knitting machines, has been shipped to the new mill.

John T. Manning and Emery Denny, Jr., are principal incorporators of the recently chartered **Thompson Hosiery Mills, Inc.**, Durham, N. C.

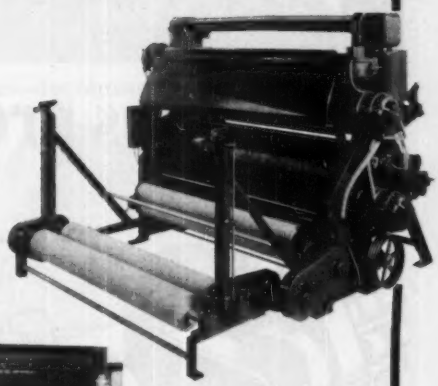
The new addition to **Holt Hosiery Mills**, Glen Raven, N. C., now under construction, will approximately double the present floor space.

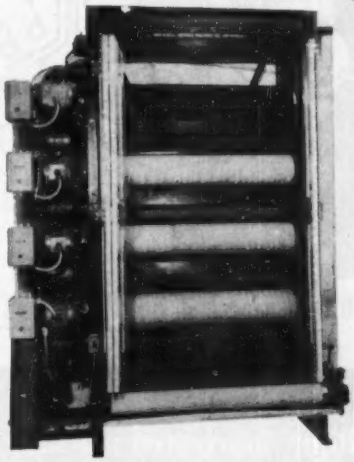
An expansion program is under way at **Waverly Mills, Inc.**, Laurinburg, N. C., which will include installation of wide Draper looms and auxiliary equipment for the manufacture of synthetic sportswear fabrics.

Extensions in the cleaning and picking departments at Adrian and

What a Team!

Hermas AV Shear plus.....





Hermas Motorized Brush

Assure Perfectly Cleaned Fabrics

Used together these two machines do a superlative cleaning job on all types of cotton fabrics.

HERMAS AV SHEAR

For all weights of goods from duck and tropical worsted to seersucker and organdy. Removes all threads from both selvages and face and back of goods at one pass with operating speeds of 100 to 120 yards per minute.

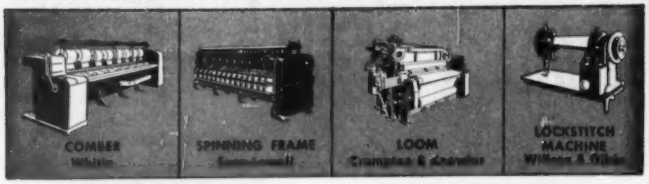
The Motorized Brush does a fast, efficient cleaning job in removing mote, leaf, and dirt from all types of constructions of cotton goods.

Calibrated control levers give graded pressure for heavy or light brushing or sanding.

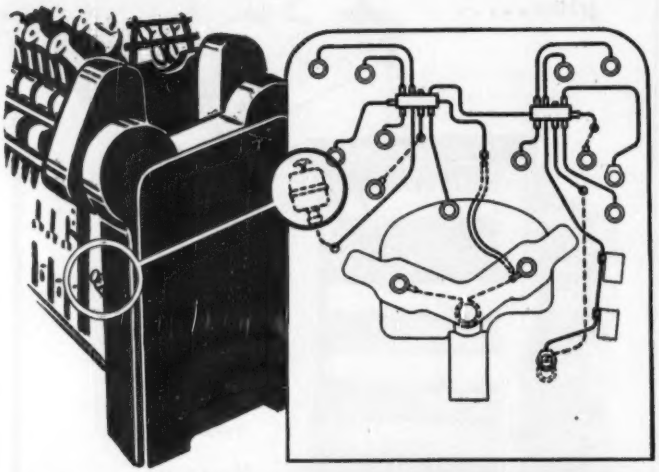
"Metlkor" brushes standard equipment.
Each brushing roll has its own motor. All rolls start and stop simultaneously in response to a single control. The brush stops automatically whenever the shear stops.
Write for 8-page Catalog and complete specifications of these two machines.

HERMAS MACHINE COMPANY
America's only specialists in clothroom equipment
WARBURTON AVE. HAWTHORNE, NEW JERSEY

LEADING MANUFACTURERS WHO BUILD IN THE BIJUR SYSTEM



continuous production



assured by the Bijur-lubricated machine

You don't have to shut down a Bijur-lubricated machine to oil it. The lubricator (circle) oils the machine during operation. In this way costly down-time for lubrication is converted into more time for production.

Maintenance time is further cut by the Bijur system of Meter-Unit control. This method reduces bearing wear by controlling oil film at each individual bearing automatically. To assure peak production over a long period, specify the Bijur system when ordering new machines. For further details, write for Bulletin 6A, "Metered Lubrication of Textile Machinery."

BIJUR
LUBRICATING CORPORATION
ROCHELLE PARK, NEW JERSEY

What the TEXTILE MILLS are doing

Madora mills, with installation of additional equipment have been announced by **American Yarn & Processing Co.**, Mount Holly, N. C.

Berkshire Fine Spinning Associates, Providence, R. I., have announced the purchase of machinery totaling $1,227,000, with further equipment to be ordered. At their Albion, R. I., Mill No. 1, a top story addition is planned, to be equipped for increased output.

Contract has been let by **Moore Fabric Co.**, Pawtucket, R. I., for a one-story addition to the plant.

A one-story addition to the Privet St. plant of **Premier Thread Co.**, Pawtucket, R. I., is under construction. The cost is reported to be $75,000, with equipment.

The newly chartered **United Fabrics, Inc.**, Providence, R. I., will manufacture cotton and rayon fabrics. Sidney L. Rabinowitz, 70 12th St., Providence, is attorney and representative.

The former Voos Mill, Hope Valley, R. I., has been acquired by **Nottingham Lace Works**, West Warwick, R. I., and will be operated as a branch mill. A one-story addition will be erected and a number of new lace looms and other facilities installed.

The former warehouse of **Textron Southern, Inc.**, at Anderson, S. C., is being converted into a rayon weaving plant, to be known as the Southside Mill. The firm is also carrying out expansion plans at the Toxaway mill, with a one-story addition to be erected and 320 new looms and other facilities installed.

Contract has been let for a $150,000 boiler plant at the Abbeville (S. C.) Mills division of **Deering, Milliken Co.**

Stockholders recently voted to approve the sale of Appleton Co., Anderson, S. C., to **J. P. Stevens & Co., Inc.** It was announced that the Appleton operation would become an integral part of the Stevens production group.

An addition to the **Austin Hosiery Mill**, Albemarle, N. C., now under

What the TEXTILE MILLS are doing

construction, will provide about 3,400 additional square feet of floor space. The new section will accommodate six full-fashioned hosiery machines and the mill's seaming and looping department.

A million-and-a-half dollar thread plant in the Hendersonville, N. C., area is being planned by **Belding Corticelli,** for use in making monocord thread of Orlon acrylic fiber, nylon, and Fiber V.

The employees of the Bristol (Tenn.) Weaving Plant of **Burlington Mills Corp.,** were recently awarded the blue and white accident prevention flag by Liberty Mutual Insurance Co., for completion of one million man hours without a lost-time accident.

The building formerly occupied by Newnan (Ga.) Hosiery Mills has been acquired by the Lumite Division of **Chicopee Manufacturing Corp. of Georgia.**

In view of the fact that the village of Schoolfield will be incorporated in Danville, Va., next July, **Dan River Mills** has started disposing of some of its large realty holdings in that area; 554 mill houses are being sold, many of them to their present occupants.

Moving to larger quarters in Philadelphia has resulted in **Dunhill Knitting Mills** increasing its production from 7,000 to 10,000 pounds of T-shirt cloth a week, according to a report by Herb Adelman, a firm official.

Holiday Wear, Inc., a division of Gottfried Oppenheimer, Inc., has leased a 24,000 sq ft building in Ridgeland, S. C. Machinery is being installed and the plant is expected to be in operation shortly. Approximately 250 people will be employed.

Minnesota Knitting Mills have moved into new quarters, with considerable added space, at 213 East 4th Street, St. Paul, Minn.

National Textile Printers, Paterson, N. J., have been purchased by **A. M. Perlman, Inc.,** the plant to be used exclusively for processing of goods from outside customers. A special

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U. S. General Sales Agents

What the TEXTILE MILLS are doing

finish, called Nashco, is to be featured, with the name stamped on all goods.

Queen Knitting Mills, Philadelphia, Pa., have discontinued production of women's bathing suits. The firm will concentrate its efforts on T-shirts, shorts, and coordinated separates, according to **Martin Saligman,** firm partner. Juvenile bathing suits will continue to be made at Jeff Richars, Inc., Elmer, N. J., partially owned by Queens.

Resolute Knitting Mills, Philadelphia, Pa., have been liquidated and all operations were ceased December 1, according to a recent report.

At its recent annual banquet, **Roanoke (Va.) Mills, Inc.,** honored 233 employees who had been with the company five or more years. Service pins, certificates of recognition, and bonuses were presented to 46 employees with five-year multiples of service up to 30 years.

Rocky Creek Mills, Statesville, N. C., recently announced that when their new building is completed and new machinery installed, production of the mills will be increased approximately 40 per cent.

A new plant, to be used solely for experimental work, was recently acquired by **Sanson Hosiery Mills, Inc.,** 7626 Santa Monica Bldg., Los Angeles, Cal.

A synthetic weaving plant, comprising 90,000 sq ft of space, is under construction by **Westover Mills, Inc.,** at Honea Path, S. C. Plans call for installation of between 400 and 500 looms, and employment of approximately 200 people.

Slane Hosiery Mills, Inc., High Point, N. C., recently celebrated its 35th anniversary. Willis H. Slane, founder of the mill, noted that its production began with 40 knitting machines, and that its daily capacity now, with 764 machines, is more than 10,000 pairs of hose.

Statesville (N. C.) Narrow Fabrics Co. was recently organized to deal in textile products.

A number of mill homes occupied by employees at **Victor Monaghan** and **Appalache Mills,** Greer, S. C., were recently sold to the occupants, according to an announcement by **J. P. Stevens and Co., Inc.,** owner of the mills. The firm has also announced plans for a textile plant, to cost several million dollars, at Wallace, N. C. Details of the production capacity were not revealed, although it was said that the plant would contain nearly 200,000 sq feet of floor space. The **Dunean Mills** Division of the firm, Greenville, S. C., has let contract for remodeling of its main offices.

According to a recent announcement by Royal Little, president of **Textron Inc.,** the recent nationalistic activities in Puerto Rico had no adverse effect on the Ponce cotton mill's production. Furthermore, the firm is negotiating with the Industrial Development Co. there for expansion of its Ponce facilities, in order that the cotton fabrics produced in that plant can be dyed, printed, and finished in Ponce for distribution to Puerto Rican garment manufacturers.

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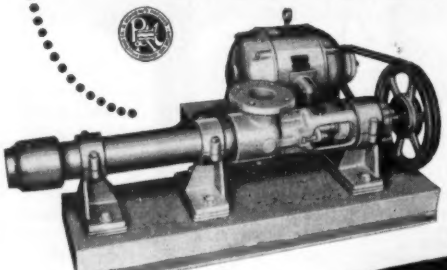

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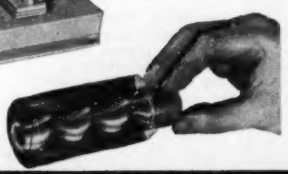

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What the TEXTILE MILLS are doing

Fromm Brothers Design Co., Ltd., 453 Dundas St., Galt, Ont., recently organized, will operate a woolen weaving plant.

David G. Geffner, 58 Weybosset St., Providence, R. I., is principal incorporator of the recently chartered **Pettis Yarn Co., Inc.** Rayon yarns will be manufactured.

Approximately 175 employes of the **U. S. Rubber Co.** plant at Shelbyville, Tenn., who had been with the firm more than ten years, were recently honored at a banquet and awarded service pins.

The **Utica-Mohawk Cotton Mills** interests in Seneca, S. C., are disposing of about three hundred homes in the village, the present occupants having first choice.

The Pomona Mills property in Greensboro, N. C., which has been leased by the **Western Electric Co.,** was recently purchased by that firm.

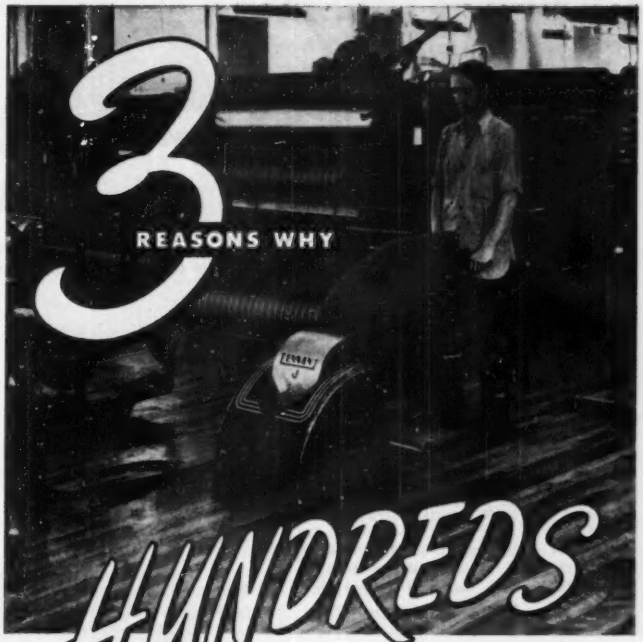
The Easley, S. C., plant of **Woodside Mills** held open house on Thanksgiving Day for its employees and their friends, to better acquaint the citizens of the town with the textile industry.

An expenditure of approximately $225,000 for modernization of the homes owned by **P. H. Hanes Knitting Co.,** Winston-Salem, N. C., has been announced by P. Huber Hanes, Jr., vice-president of the firm.

The knitting mill properties of **Port Leyden (N. Y.) Knitting Co.,** have been acquired by **Valley Knitting Co.,** Pottsville, Pa. Griffin Avery, formerly with the Lifalco Manufacturing Co., Little Falls, N. Y., has been appointed manager of the Port Leyden plant.

An addition to the local dye plant of **Alabama Mills Co.,** Wetumpka, Ala., is now under construction. It will be used for a new indigo dyeing machine with provision for package and raw stock dyeing operations.

Quitman (Miss.) Manufacturing Co. has contracted for construction of a one-story addition to the plant, reported to cost about $50,000, exclusive of equipment.



OF MILLS USE THE
TENNANT System
OF FLOOR MAINTENANCE

Its cost-saving performance and ease of use have established TENNANT as *THE accepted floor maintenance system of the U.S. textile industry.* This unique acceptance is due to these practical advantages . . .

1. CUTS FLOOR MAINTENANCE COSTS
You save 4 ways—in *manhours,* by cleaning faster in one operation with 1 man; you cut *accident costs* by DRY-cleaning (no wet, slick floors). You avoid needless *floor repair costs* . . . and reduce *stock losses* from snags, splinters and soilage.

2. EASIEST TO USE: eliminates scrubbing!
Works like magic! You get rid of dark, rough, oil-soaked fibers . . . and have a smooth, bright, *hardened* floor surface that resists dirt. Stays clean longer! Ends costly, harmful scrubbing and wet-mopping.

3. FITS YOUR MILL'S SPECIFIC NEEDS
Your TENNANT System is individually selected and planned, 100% *specialized* for your mill. Assures you of best results. Personal installation and periodic inspection . . . *without charge.*

ONLY DAILY CARE needed is fast, low cost sweeping. Oil, dirt and dust do not cling to the smooth, hard surface of a **Tennantized** floor. Dirt sweeps off easily . . . Keeps your floor bright and attractive.

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SUPPLIERS News

WHAT THEY ARE DOING

Karl Inderfurth, formerly with Universal Winding Co., is now associated with **Wamesit Warper Co.**, Lowell, Mass. Mr. Inderfurth, with headquarters in Charlotte, N. C., will represent the firm in the South in the sale of warping and beaming machinery.

The **American Cyanamid Company**, Calco Chemical Division, has announced the retirement of Arthur H. Sampson, New England manager, Dyestuff Department. Mr. Sampson has been with the firm since 1917.

John S. Coey has been made eastern sales manager of the **Hooker Electrochemical Co.**, and Thomas H. Trimble, formerly eastern sales supervisor, has been appointed assistant manager, Niagara sales office.

Establishment of the **Alexander Smith Products Co.**, with Frank H. Higgins, formerly assistant to Paul Hoffman in the E. C. A., as president,

Mr. Higgins

has been announced. One of the new company's first responsibilities will be to take over the direction of Alexander Smith's "Textralizing" process and the licensing of other manufacturers to use it and the required equipment. This division will also direct the installation and servicing of the "Harristrip" process for stripping the color from dyed wools, and the sale of products needed in the national mobilization effort.

After fourteen years' affiliation with the acetate division of the **DuPont Company's** rayon department, Dr. Bruce S. Farquhar was recently made assistant manager of the acetate fabric development section. His headquarters will be at the company's offices in the Empire State Building, New York City. Millard G. Gamble, III, who has been a salesman of "Cordura" high-tenacity rayon for almost a year, is now assistant sales manager for that product.

A reneedling plant in North Asheboro, N, C., is being established by **Textile Machine Works**, Reading, Pa., to render better service on reneedling equipment to the firm's southern customers, according to a recent announcement.

Celanese Corp. of America has announced the appointment of Dr. A. F. Tesi as assistant to the technical officer. Before coming to Celanese, Dr. Tesi was director of testing and merchandise standards for the W. T. Grant Co.

Gardner-Denver Co. is establishing a Canadian plant at Brantford, Ont., to be operated by Gardner-Denver Company (Canada) Ltd. Production of the new plant will be handled through the seven branch offices maintained in Canada.

After 35 years with **SKF Industries, Inc.**, and vice-president since 1943, Richard H. DeMott has been made president of the firm. Mr. DeMott succeeds William L. Batt, who resigned to re-enter government service as chief of the Economic Cooperation Administration mission to the United Kingdom.

Milton G. Peck, formerly associated with Yale and Towne, was recently appointed sales manager for **Clark Equipment Co.'s** new line of powered hand trucks.

The H & B Machine Co. has announced the resignation of Elmer J. McVey, vice-president and a director. Ellison A. Smyth, manager of southern sales, has been elected vice-presi-

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GRANT BUILDING, PITTSBURGH, PA.
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SUPPLIERS News
WHAT THEY ARE DOING

dent and a member of the board of directors of that firm.

A tract of land in Saco, Me., has been purchased by **Saco - Lowell Shops** for construction of the first units of its plant rebuilding program in the Biddeford-Saco area. The new plant will house operations currently carried on in the shop buildings on the Saco side of the river, and will comprise about 300,000 sq ft.

At its recent annual meeting, the **National Lubricating Grease Institute** elected as president Howard Cooper, manager of technical service of Sinclair Refining Co.

Two new representatives have been appointed for the Southeast by **Emil V. Wilson Co.**, Greenville, S. C. Wilburn Asbury, loom specialist, will handle sales and service in North and South Carolina and Virginia. His headquarters will be in the firm's Greenville office at 209 Stokes Building. B. J. Wilson, of Atlanta, Ga., will be sales representative in Georgia, Alabama, Mississippi, and part of Tennessee. Emil V. Wilson, head of the firm, has also announced establishment of a small loom rebuilding plant in Greenville, which will make it possible for the company to completely modernize 15 to 20 looms per week in the plant.

Allis-Chalmers Manufacturing Co. has opened a branch office at 269 Water St., Augusta, Me., under the management of D. P. Appleton. Harold S. Millay, service supervisor in the Boston district office, has been appointed a sales representative in the new Augusta office.

A series of courses on methods-time-measurement, instituted by the firm's southern division office, has been announced by **Bruce Payne & Associates**, Westport, Conn. Present plans call for presentation of the two-week conference in several of the South's major industrial centers, according to Rhett Ball, southern division manager.

A series of technical sales conferences, attended by field service representatives, was held by **Oakite Products, Inc.**, during the month of November. The series was based on the theme, how recent developments

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SLASHING WEAVE-WELL PRODUCTS

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SIZING problems, many weavers know by long experience, are most readily solved with a call to the Frank G. North organization of men who are at home in the mills.

For almost half a century our products and our staff of experienced mill-trained representatives have contributed to profitable, efficient textile production.

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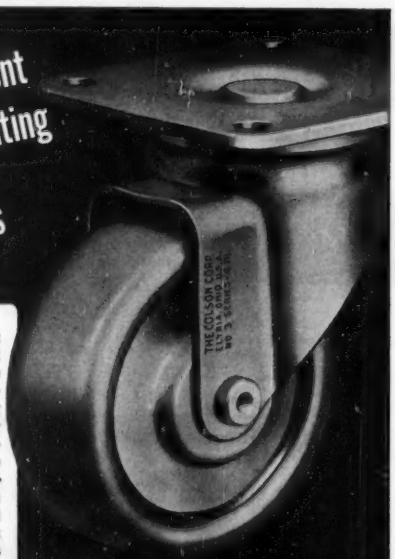
Speed Up Your Old Equipment with New Load-Floating Colson Casters



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CASTERS • • LIFT JACK SYSTEMS • • INDUSTRIAL TRUCKS

SUPPLIERS News
WHAT THEY ARE DOING

in the field of cleaning and allied procedures are helping industry meet the demands of increased production.

Louis W. Bishop has been named president of the **Hunt Machine Works,** Greenville, S. C. Alfred N. Willett continues as vice-president and works manager, and William E. Henderson as secretary-treasurer.

Jesse F. Yeates, Jr., has been appointed to the fiber division sales staff of **Virginia-Carolina Chemical**

Mr. Yeates

Corp., and will be located in the general offices of the firm in Richmond, **Va.**

American Cyanamid Co., Calco Chemical Division, has announced construction of additional facilities for the production of anthraquinone, to be completed in the spring.

Eriez Manufacturing Co. has announced the appointment of Damiano Piccinini, piazza Bernardino N. 6, Lucca, Italy, as exclusive sales representative in Toscana, Liguria, and Lazio, **Italy.**

The entire capital stock of the Greenville (S. C.) Belting Co. has been purchased by the **Schmidt Manufacturing Co.,** New Bedford, Mass. Present plans call for the expansion and complete modernization of the Greenville plant, which was acquired to better serve the Southern textile industry.

The **Fischer & Porter Co.** has announced that its next instrumentation course will be held January 15-19 at the Hatboro, Pa., plant. The course will cover manufacture, calibration, installation, operation, and maintenance of primary and secondary process control instruments.

SUPPLIERS News — WHAT THEY ARE DOING

Robert R. Anderson was recently elected president of Worthington-Gamon Meter Co., subsidiary of **Worthington Pump and Machinery Corp.** Charles E. Wilson, formerly president, is now chairman of the board; William C. Flanders has been made vice-president in charge of sales, and Walter H. Zeis, secretary-treasurer.

Stanley Brooks has been added to the staff of **Tower Iron Works** as textile engineer, working on development and sales of wet finishing equipment. Before coming to Tower, Mr. Brooks was with H. W. Butterworth and Sons Co.

J. McLean Johnston, formerly president of the Bethlehem Silk Co., has joined **Abner J. Gelula & Associates, Inc.,** as vice-president in charge of textile promotion.

E. C. Barlow, formerly associated with E. F. Houghton & Co., has become affiliated with **Charles J. Haas, Inc.,** manufacturers of industrial chemicals, oils, and greases.

Bertram V. Jones, associated with the firm since 1923, was recently appointed advertising manager of **Link-Belt Co.,** succeeding Julius S. Holl, deceased. John F. Kelly continues in the capacity of assistant advertising manager.

Mr. Jones

Joseph W. Kreuttner, formerly with Air & Refrigeration Corp., is now associated with **Buensod-Stacey, Inc.,** in the general sales department. Mr. Kreuttner will have his headquarters in New York City.

The **Durene Association of America** has elected Joseph P. Holt president and treasurer, succeeding R. C.

YOU can eliminate bearing troubles on applications where lubrication is difficult or liable to be neglected. Johnson Graphited Bearings are designed for 40 to 45% graphite contact with the shaft, thus supplying constant free-running without further lubrication. In addition, Johnson Graphited Bearings are highly desirable where ordinary lubricants may damage food, textiles and other goods in process. They are widely used on conveyor rolls, immersion rolls in textile and paper industries, pumps handling corrosive liquids, and many other heavy-duty applications. Johnson Graphited Bearings are manufactured in cast bronze and sheet bronze. They are available in serrated and in plug types as illustrated. If you have such a troublesome bearing problem, write, wire or call for further information.

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Graphite held permanently in place. Graphite area increases with wear. Not soluble in gasoline, oil or water.

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Use All Purpose Ball Bearing ROTARY UNIONS

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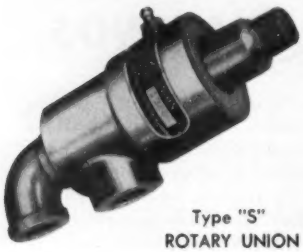

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ROTARY UNIONS are far superior to stuffing boxes and packing joints and to ordinary steam unions. Low friction drag permits continuous and economical high speed operation. They are simple to install, save power and maintenance costs, cut down-time and far outlast other joints.

ROTARY UNIONS are your most efficient connection for heating or cooling purposes on revolving shafts and drums. Write for Catalog No. 500 for full information on using ROTARY UNIONS in your plant.

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SUPPLIERS News — WHAT THEY ARE DOING

Thatcher of Standard-Coosa-Thatcher. Mr. Holt is vice-president and treasurer of Aberfoyle Manufacturing Co.

H. B. Askew, associated with National Ring Traveler Co. for 17 years, and for the last several years southern manager of National, resigned November 1 to become associated with **Harris Manufacturing Co.**, Atlanta, Ga., in a sales capacity. Mr. Askew will make his headquarters in

Mr. Askew

Griffin, Ga., and will represent Harris Manufacturing in the several southern states on accounts for which the company serves as agent; these are: Eriez, Ragan Ring, New England Bobbin and Shuttle, National Plastics, and Granite Machine Co. (ball bearing top rolls).

Southern States Equipment Corp. held a "10th Anniversary in Georgia" party at the Henry Gardy Hotel, Atlanta, on December 7th. In addition to its own officers, supervisory personnel and sales representatives, industrial and business leaders from Atlanta, Griffin, Hampton, and McDonough, were guests for a very entertaining evening.

The **Philip J. LoBue Company**, manufacturer and distributor of chemicals for industry, has moved to larger quarters at 277 Park Avenue, New York 17, N. Y. Foster T. Smith, formerly with Merck & Co., Inc., has joined LoBue as sales manager.

A manufacturing plant adjacent to their present plant in New Brunswick, N. J., is now under construction by **Ross Industries Corp.** The new plant which will greatly expand the manufacturing capacity for building Ross air systems, is expected to

The EMBLEM OF QUALITY METAL SHIELDS

For Spools and Bobbins

Anderson Shields are dependable protection against chipping, splitting, and breaking of spools, bobbins, and paper caps. Even the most minute details are carefully worked out to make Anderson the highest in precision, the smoothest in finish, the best in performance. The Anderson Emblem is your assurance of the finest shields you can buy.

Insist on Anderson when you order metal shields.

TEXTILE SHIELD CO., INC.

J. N. ANDERSON, Treasurer

LAWRENCE, MASS., U. S. A.

be completed the latter part of the year.

Manning, Maxwell & Moore, Inc., Bridgeport, Conn., has announced the appointment of R. F. Attner as manager of valve distributor sales. Mr. Attner was formerly with Hancock Valves.

The **Pennsylvania Salt Manufacturing Co.** has moved its district sales office to Suite 1216, Builders Building, 228 North LaSalle St., Chicago, Ill. The firm has also announced the transfer of all production from its Easton, Pa., plant to the plant at Cornwells Heights, Pa. R. W. Tomlinson, formerly of Easton, has been named superintendent of the Cornwells Heights plant, replacing R. O. White, who will be superintendent of the new plant under construction at Montgomery, Ala.

Sanford P. Young has joined the textile finishes development department of **Joseph Bancroft & Sons Co.**, and will carry on contact and administrative work with mill execu-

Mr. Young

tives in the South who are licensed to produce "Everglaze" fabrics and other Bancroft products. Before coming with Bancroft, Mr. Young was associated with Dan River Mills.

Morningstar, Nicol, Inc. has been appointed exclusive sales agents for the **Magic Valley Processing Co.**, considered the largest single unit producing potato starch in the United States today.

Eben Esmond Whitman was recently appointed assistant to L. W. Lawson, president of **Kroy, Inc.**, with headquarters at the company's sales office, 51 East 42nd St., New York, N. Y. Operating as a service company, Kroy processes wool tops

Nearly 11,000 square feet of Northern Hard Maple Flooring in the cafeteria, Western Electric Company's new electronics plant, Allentown, Pa. Decorations are in tastefully chosen shades of rose and green.

Another handsome, comfortable, enduring floor of

NORTHERN HARD MAPLE

Clean and bright and pleasant Northern Hard Maple floors have been the favorite of textile folks everywhere for generations. The many photographs of fine and famous mills we have shown you prove it. Here, "for a change" you see MFMA Northern Hard Maple serving another great industry . . . an industry interested in the self-same qualities in a floor that textile men require—smooth, resilient, light-reflecting surface, toughness, easy upkeep, freedom from cracks, splinters and dirt. All official MFMA grades of Northern Hard Maple—First, Second, and Third—are now available. And the especially thrifty and tight-laying 1½-inch face width can be had, too. Write, if you'd like full facts on approved floor finishing methods.

See Sweet's
Latest (1950) editions —Architects 13g-7; Engineers 4j-21 — for full data and standard specifications.

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- Guaranteed for TEN YEARS.
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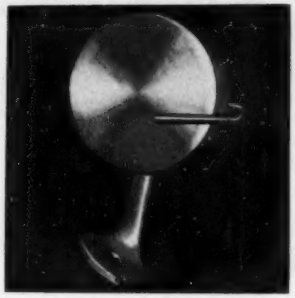

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NEW "PVR" Lineal Measuring Machine

PRINTING LEVER

The Counter that gives you a Printed Record

MILL RESULTS PROVE...

- ELIMINATION OF COSTLY MISTAKES — printed figures cannot be misread.
- COST SAVINGS — true measurement to nearest ⅛ yard is always recorded.
- INCREASED PRODUCTION — no time wasted by operators in writing figures.
- CUSTOMER ACCEPTANCE — printed record is accepted as exact measurement.

The quick lever reset on this new "PVR" Productimeter enables operator to produce more per day. It permits optional resetting with each print, or printing multiple times without resetting the counter. Savings over a short time more than justify installation costs. Investigate NOW.

Durant Sales Engineers will be glad to demonstrate.

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PRODUCTIMETERS
SINCE 1879 — Speedometers OF INDUSTRY

SUPPLIERS News
WHAT THEY ARE DOING

and scours wool forwarded to its plant on the orders of spinners and knitters and, after processing, returns the wool to the sender ready for spinning.

United States Rubber Co. has appointed Joseph A. Conlon, formerly Chicago district sales manager, as manager of allied sales for the mechanical goods division. Edwin D. Meade, formerly manager of western railway sales, has replaced Mr. Conlon in Chicago.

Arnold, Hoffman & Co. has appointed Dwight L. Turner as southern sales manager, succeeding W.

Mr. Turner

Chester Cobb, vice-president in charge of sales. Mr. Cobb has been transferred to the firm's headquarters in Providence, R. I.

Abington Textile Machine Works has announced the appointment of Walter W. Watt, Jr., to succeed Fred H. White, retired, as southern agent. John W. Burdine, representing the company in Canada and New England, has succeeded Fred H. White, Jr., resigned, as representative out of the Atlanta, Ga., office, now located at Room 901, William & Oliver Building. The Charlotte, N. C., office of Abington has been moved to 1408 Liberty Life Building.

The C. Arthur Weaver Co., established last year as an agency specializing in power transmission equipment, has been appointed sales representative for the **American Flexible Coupling Co.** The firm's territory will include all of Virginia except Arlington.

A district sales office has been opened by **The Louis Allis Co.** at 1440 S. Tryon St., Charlotte, N. C., with R. J. Overstreet as district manager.

New Equipment and Materials

(Continued from page 178)

Hot Coffee Dispenser

Now available for industrial plants through vending machine operators in most industrial centers is a new 500-cup capacity Coffee Bar which is said to dispense a good cup of coffee with high butterfat cream at 5 cents per cup. The only installation requirements for the machine are 110-120-volt a-c 60 cycle electrical outlet and a water connection. No drain is required. No refrigeration is necessary. No danger of coffee or cream deteriorating or turning rancid over week-ends, it is claimed. Current consumption about 2 cents for each 100 cups of coffee. Dimensions: 69 inches high, 26 inches wide, 21 inches deep.

The Bert Mills Corp., 400 Crescent Boulevard, Lombard, Ill. (A-214).

Electric Cord Take-Up Reel

Designed for use with cloth cutting machines such as those employed in garment manufacturing plants, a new automatic electric cord take-up reel provides very light spring tension and easy maneuverability. New semi-swivel ball mounting and large free-action guide rollers, enable the operator to follow the most intricate patterns without interference while the power cord is held taut. Pays out and retracts up to 25 feet of 18 gauge cord.

Appleton Electric Co., 1701-59 Wellington Ave., Chicago 13, Ill. (A-215).

Pivoted Fork Tines for Close Quarters

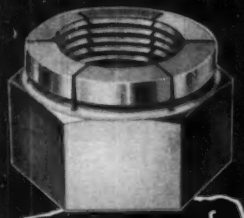
Vertically pivoted forks for use on high lift power industrial trucks have been developed to meet requirements in factories, warehouses and shipping departments where loads frequently are maneuvered in congested areas. Device is furnished as an integral part of some models of Elwell-Parker fork trucks, or may be supplied as an attachment for standard model trucks.

Elwell-Parker Electric Co., Cleveland, Ohio. (A-216).

Brass Regrinding Swing Check Valve

A line of Y-pattern brass swing check valves, of the regrinding type, contains valves in the 200 and 300 pound pressure classes. Screwed end patterns are available in sizes ¼ to

Why FLEXLOC SELF-LOCKING NUTS



"This nut will take the place of the two regular nuts and the washer that is now on this piece."

(Part of a letter from a Connecticut distributor.)

. . . simplify assembly

You can readily see why FLEXLOCs simplify assembly when you read the above excerpt from our distributor's letter. From comments like this we feel sure there must be hundreds of similar cases where FLEXLOC Self-Locking Nuts can be used to advantage.

FLEXLOCs offer these features: *one-piece, all-metal construction* —nothing to work loose or forget, no serious temperature problems; *resilient, automatic locking sections,* processed by our patented method to make possible FLEXLOCs' closely controlled torques; PLUS the fact that the most chattering vibration won't loosen FLEXLOCs, even after many applications.

Why not convince yourself with actual samples? Tell us what size you want and you'll receive them promptly, together with our latest literature.

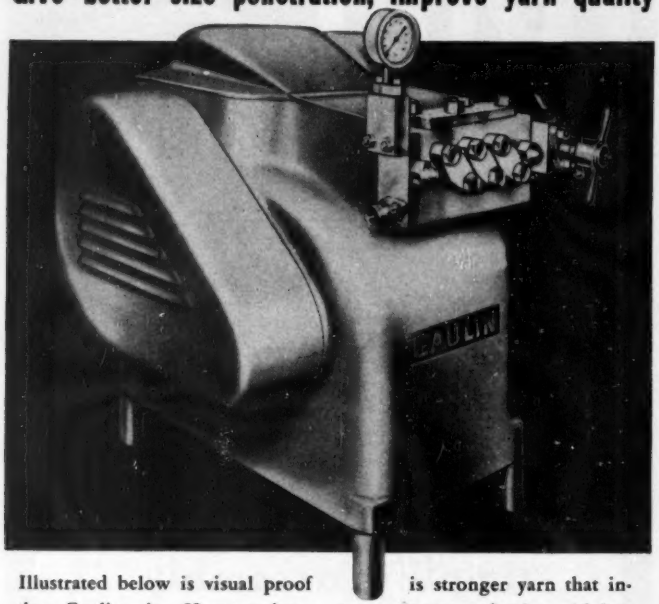
FLEXLOC Self-Locking Nut, "regular" type. FLEXLOC Self-Locking Nut, "thin" type. FLEXLOC Self-Locking Nut, external wrenching type.

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 34, PENNSYLVANIA

Here's Proof that

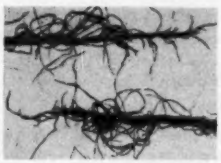
GAULIN HOMOGENIZERS

Give better size penetration, improve yarn quality

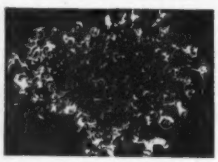


Illustrated below is visual proof that Gaulin size Homogenizers improve the quality of size, thus assuring better, more uniform size penetration into yarn. The result is stronger yarn that increases loom production with less rejects. In addition, Gaulin Homogenizers eliminate cooking time, providing still greater savings.

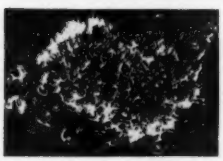
Photo micrograph shows break of homogenized single 60s yarn. Note the uniform lay of the fibres.



Break of 60s yarn coated with boiled size of same formulation. Notice the irregular break throughout.



Cross section of 28s with homogenized size. Size coating and penetration is uniform throughout.



Cross section of 28s with boiled size. Note the heavy and thin size deposits.

Write for complete information on Gaulin Homogenizers, today.

Manton Gaulin Mfg. Co., Inc.

51 Garden Street, Everett 49, Massachusetts

3-inch, inclusive; flanged end patterns in sizes 1 to 3 inches inclusive. Large cap opening on same center line as seat opening permits easy access for regrinding or replacement of parts. Minimum resistance to flow. Closure on backflow is fast and positive. Can be used where flow is horizontal or upward.

Crane Co., 836 S. Michigan Ave., Chicago 5, Ill. (A 221).

Gasketed Loom-Motor Starter

A new motor starter with a NEMA 1A gasketed enclosure is available. Being designed for starting and stopping polyphase induction motors, it also provides overload protection. Rated up to 600 volts, 7½ hp polyphase.

Westinghouse Electric Corp., P. O. Box 2099, Pittsburgh 30, Pa. (L-213).

Torque-Arm Speed Reducer

Developed for output speeds from 115 to 330 rpm, a Torque Arm Reducer is being produced in four sizes which cover capacities up to 27 hp. Ease and economy of installation of the reducer are attributable to the shaft mounting which eliminates special engineering, the cost of a foundation, flexible couplings, sliding base, and the lining up operation.

Dodge Mfg. Corp., Mishawaka, Indiana. (L-214).

Manual Starter Has Indicating Light

The Motor Sentinel Class 10-023, an improved manual starter specially equipped with an indicating light to show when the motor is running, is available as double pole switch with ratings up to 1 hp 250 volts a-c or d-c.

Westinghouse Electric Corp., P. O. Box 2099, Pittsburgh 30, Pa. (L-215).

Fluorescent Work Light

Cool, fluorescent lighting for close work is available by screwing the Lite-Mite "Bulb" into any ordinary lamp socket. This bulb contains two 4-watt fluorescent lamps and all control components within the 2" by 6" shade which can be rotated through an arc of 300 degrees for efficient focusing.

Stocker and Yale, Marblehead, Mass. (L-216).

Portable Spot Welder

A new portable spot welder known as the "Zip" features fixed top tong and newly designed adjustable curved tips. Ease of handling and operation make possible many new spot welding operations, according to the

manufacturer. Only one hand required for operation. Assorted tong lengths and shapes available. Weight, 23 lbs. Welds mild steel, stainless, galvanized iron, terne plate and magnesium up to ⅛" combined thickness of metal. Models for either 110-volt or 220-volt a-c source.

Mid-States Welder Mfg. Co., 6025 S. Ashland Ave., Chicago 36, Ill. (A-217).

Slide-Set Vise

Savings in time and money are claimed for a new "Slide-Set" vise. It grips like conventional vises but handle spinning is eliminated. Turning handle counter-clockwise puts handle in "neutral" and jaw slides forward or backward as required. As soon as work is engaged, the vise operates in the conventional manner—by turning the handle clockwise the work is locked firmly. Available in 4-inch size with stationary or swivel base.

Dodge Mfg. Corp., Mishawaka, Ind. (A-218).

Junior Dehumidifier

Powered with a ½ hp hermetically sealed freon condensing unit, a new junior commercial and industrial dehumidifier has a maximum 24-hour capacity of 50 lb of water removal from the air. Designated the Haertel Dehumidifier "50", the unit is said to remove 1 gallon of water from the air in storerooms or other closed spaces in from four to five hours, under average temperature and relative humidity conditions. Available with or without heat recovery means.

Walter Haertel Co., 2840 Fourth Ave., Minneapolis, Minn. (A-219).

"Colloidal Dispersions" Subject of New Book

A study of the dispersion of finely divided solids in liquid media, a new book "Colloidal Dispersions," by Earl K. Fischer, covers the theory and practice of this chemical process (published by John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y.).

Battery Operated Tractor for Small Plants

The Load-Mobile tractor is recommended for hauling trailers in either single or multiple loads. It is especially adaptable to small plants where space is at a premium because it is only 44 inches long. Features 3-way operating positions. May be used for lifting jobs, etc.

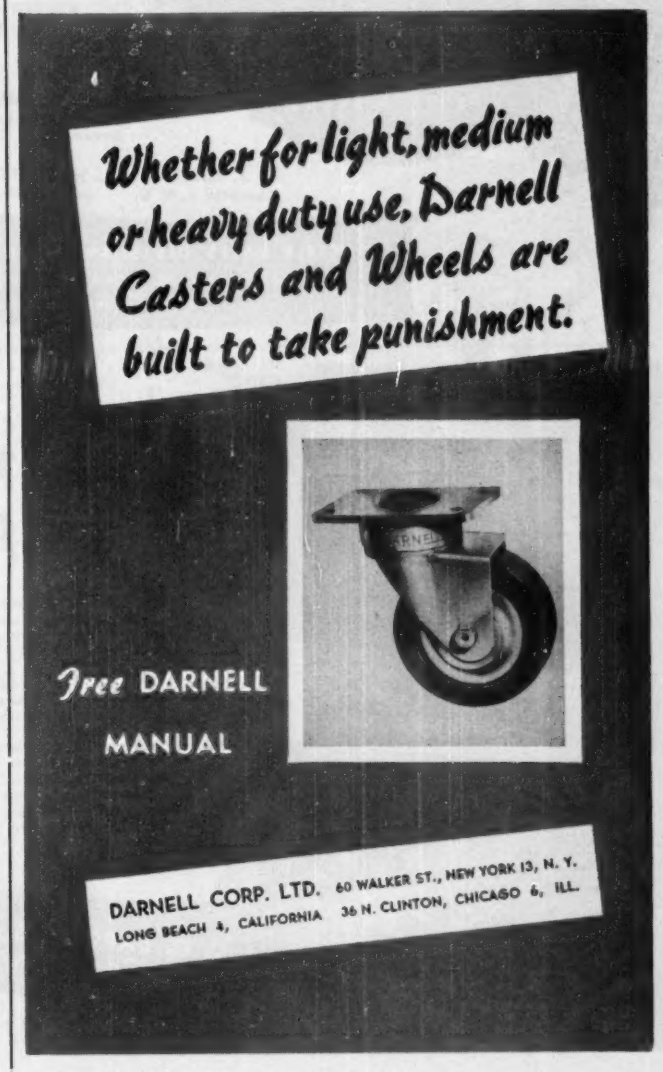
Market Forge Co., Everett, Mass. (A-222).

Spinning Nylon on Wool System

(Continued from page 124)

Spinning. Depending upon the evenness of the roping, the denier, length of staple, and the degree of parallelization, drafts of 2 or slightly higher may be used successfully with nylon. With high drafts especially, it probably will be necessary to reduce front roll speeds. With machinery in good condition and with proper humidity, no trouble should be encountered in spinning on either the ring or mule frames.

As with nylon on other systems, very lofty yarns may be obtained by using low twist; but more desirable wearing characteristics and a more permanent wearing appeal are often obtained with higher twist yarns. The spinner will have to develop sufficient experience to determine what optimum twists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SARGENT has unlimited facilities for making slat aprons of all types and sizes, and to your exact requirements . . . feed aprons and conveyor aprons for various machines . . . doffer aprons for Wool Washing and Drying Machines . . . bottom and spike aprons for Automatic Feeders of all types. All are made from selected beech or maple that has been thoroughly air dried. Slats are fastened to chains, to leather or to rubber belts. Illustrated . . . are typical Sargent Spiked Aprons built up on especially strong malleable iron chains, supplied with convenient *coupling links*. These aprons also can be supplied with corrosion-resisting bronze chains, and either monel or stainless steel pins in the slats. Before ordering slat aprons please write us for Complete Information Bulletin (No. 182).

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LARGEST MANUFACTURERS OF STOCK DRYING AND WOOL WASHING EQUIPMENT IN AMERICA

SINCE 1852

are necessary for the end product in mind. To obtain maximum loft, even when using high twist, minimum tensions should be used at all times. The yarn should be kept on bobbins only as long as absolutely necessary and twisted as soon as practical. Twisting tensions should be low; and for knitting yarns, shipment in skein form is suggested.

Frequent checks on roping sizes, yarn sizes, yarn twist, and yarn evenness are suggested. Strength of yarns tested, whether in skein form or by single ends, will be found far in excess of those obtained from most wools. By selecting the proper denier, proper length, and through the exercise of strict control over the process, high grade woolen-spun yarns can be made from nylon staple. This requires, as a rule, more attention to detail and to care of equipment than usually is exercised in spinning the well-established wool yarns.

Georgia Weaving Discussion

(*Continued from page* 153)

cloth we have found that it is possible to remove loose lint from the reed, harnesses, drop wires, breast beam, arch, etc. A frequency of once per 48 hours is necessary to maintain satisfactory operating conditions. Some improvement in quality is possible since defects caused by blowing off are eliminated. The appearance of the looms is not satisfactory and a thorough cleaning when the warp is out is necessary.

Mill W: We have an experimental system covering thirty-nine 80"-90" looms. So far, our experience has been unimpressive. It takes approximately 12 minutes to clean a loom. For this reason we clean looms only once a week and blow the drop wires once a shift. Oil has been reduced about 25%. The system has a vacuum of 8", which we feel isn't enough. We think that we could save two blow-off hands out of 24 if the system were installed all over the mill.

Three other mills reported unsuccessful attempts at using vacuum for cleaning.

Knock-Off Yardage Clocks. Accuracy of plus or minus 2% was the experience of one mill with predetermined electric knock-off yardage clocks. These clocks are used on 40 looms on which special length fabrics are made.

"Home-made" electric knock-off yardage counters are being used at another mill. Variation here is 7 yards. Construction of fabric: weight, 1.62; sley, 63; pick, 44; weave, 2/1 rh twill; warp number, 8.5; filling number, 13.6. A tolerance of 10 yards is allowed for roll lengths.

This is the extent of experience reported on this device. A third mill did state that the counters had been used before the war but were removed during the war because sufficient personnel to doff the cloth was not available.

AMONG THE MEN IN THE MILLS . . .

America's LEADING Textile Journal

Textile Industries leads in reader preference of mill executives, as was shown in the most recent impartial survey, throughout the most dominant section of the industry. Ranked first with a total greater than the next two publications combined.

Textile Industries leads all other textile publications in total mill circulation in the United States.

Textile Industries leads all national textile publications in percentage of mill circulation. 86% of T. I.'s total paid is among production, management and operating men actually in the mills.

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Slasher Cloth is an important maintenance item in a cotton mill. With the introduction of ORR *Slasher Cloth with Special Chemical Treatment*, many of the problems which have pestered the slasher room foreman have been eliminated.

The slasher room foreman, in order to satisfy the superintendent and the cost department, must have available a *Slasher Cloth* which will:—

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ORR *Special Treated Slasher Cloth* maintains uniform dressing properties, resists bacteria and steam degradation, maintains dimensional stability.

Discuss your *Slasher Cloth* problem with your ORR representative.

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REDUCED COSTS

HERE'S HOW! More work hours — no machine stops to remove twist. Fully automatic operations — no hand labor. Opens cloth from rope regardless of amount of twist. Maximum fabric protection — no sharp edges to cut cloth — no creasing in next machine in line. Minimum maintenance—no rapidly revolving parts. Quiet operation — no beating action.

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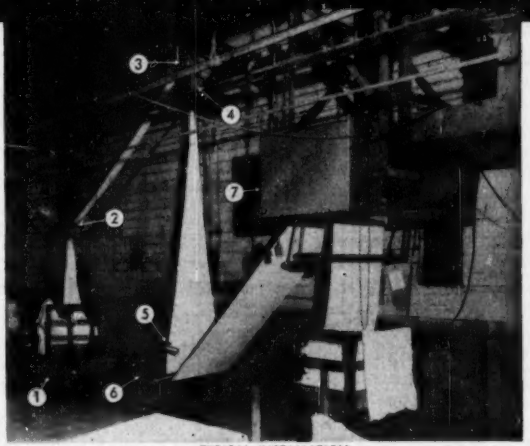

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This service is restricted to those engaged in operation and management of textile industries

First Listing of New Publications

1-1. Air Conditioning. New Booklet describing the principal air conditioning systems which White and Company is prepared to install. Describes central station with refrigeration, central station with air washers, dry duct units with atomizers, and window units with atomizers. Pictures of typical installation. White & Co., Inc., 1440 S. Tryon St., Charlotte, N. C.

1-2. Metal Surface Protection. Folder describing the protection of new and old metal surfaces with "Longlife"—where and how it is used and illustrating the types of surfaces for which it is recommended. Its effects on metal and its protective qualities are mentioned in detail. Flexrock Company, 3653 Cuthbert St., Philadelphia 4, Pa.

1-3. Pressure Blowers. New class 2000 pressure blowers described in illustrated booklet available. Typical installations and advantages of these direct drive axial flow pressure blowers described with full engineering data. Described as the only blower designed to use the non-corrosive materials and to provide any number and pitch of blades for a specified pressure and velocity with minimum horsepower. The Moore Co., 800 South Missouri, Marceline, Missouri.

1-4. Dyeing of Synthetic Fibers. Informative booklet describing the dyeing of "Orlon" acrylic fiber, nylon, and fiber V is available on request. E. I. Du Pont De Nemours & Co., Inc. Organic Chemicals Department, Dyestuffs Division, Wilmington 98, Dela.

1-5. Hydroline Drive Mule. Well illustrated booklet describes advantages, design and construction features and typical installations of this new development which uses a fluid coupling between the motor and transmission thereby completely eliminating the overhead belt and countershaft. Johnson & Bassett, Inc., Worcester, Mass.

1-6. Textile Tapes. New booklet entitled "Scotch" Brand Textile Tapes in action, provides 26 pages of case histories and technical data on proven uses for pressure-sensitive tape in the textile industry.. Taping techniques described for such uses as holding ends on a creel; holding end of warp threads; holding warp thread ends after slashing and many other uses. Minnesota Mining and Manufacturing Co., 900 Fauquier St., St. Paul 6, Minn.

1-7. Plastics. New four-page brochure entitled "Insurok Molded and Laminated Plastics," describes the wide line of "Insurok" products and outlines the company's production facilities and plastics engineering services. Tubes, rods, fabricated parts, gear stock, bearings and post-formed laminates illustrated and advantages described. The Richardson Company, 2751 Lake St., Melrose Park, Ill. (Chicago District)

1-8. Universal Joint Catalog. New catalog of interest to anyone in the textile field who has to do with purchase, design, production, or maintenance of universal joints. How to select universal joints, engineering graphs, dynomometer tests, assembly and risassembly instructions, specifications, etc., included. Curtis Universal Joint Co., Inc., Springfield 7, Mass.

1-9. Textile Material Handling. Booklet describing complete line of Sunray products. Battery filling truck, doff truck, lap truck, cloth truck, pin truck, cone truck and many others described with pictures illustrating and uses discussed. Sunray Company, P. O. Box 445, Spartanburg, S. C.

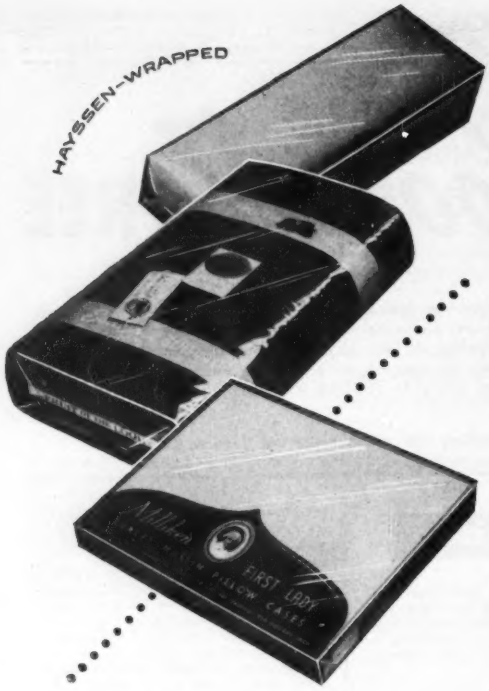
1-10. Textile Research Department. Beautifully illustrated booklet telling the story of the Textile Research Department and the work done on new techniques, new machinery, new fibers with new uses, and new uses for existing fibers and many other functions. Machinery and process shown of each different system of spinning along with the dyeing and finishing, industrial, textile chemical and engineering divisions. American Viscose Corporation, 350 Fifth Ave., New York 1, N. Y.

1-11. Centrifugal Pumps. Class HMTA multi-stage centrifugal pumps with 3 to 9 stages for pressures to 1200 psi, temperatures to 650° F, and capacities from 125 to 1600 g.p.m. described along with the HMTB units with 4 to 9 stage designed for 50 cycle operation at similar ratings. Many pictures of parts and cutaway diagrams along with engineering data. Ingersoll-Rand Co., 11 Broadway, New York 4, N. Y.

1-12. Humidification and Cooling. Amco ductless system fully discussed in new booklet with many pictures of typical installations. Benefits of controlled humidification and cooling charted, relative humidity charts and standard textile regain charts. American Moistening Comany, 260 W. Exchange St., Providence, R. I.

1-13. Cotton Card Drive. A new booklet B-4596 pointing out advantages of individual motor drive for cotton cards, along with description of the different types of motors available. Operating features and construction of the lint-free motor, totally enclosed motor and the gearmotor. Westinghouse Electric Corp., Box 2099, Pittsburgh 30, Pa.

1-14. Industrial Dust Collecting. New booklet describing the



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manufacturers line of all steel heavy duty ball bearing exhaust fans and industrial dust collecting systems. Specifications and pictures of each along with engineering data and charts. Carolina Blower Co., Inc., Greensboro, N. C.

1-15. Steam Circulation. Heat transfer, steam and condensate velocity, streamline and turbulent flow, internal construction of steam space—these and many other items relative to steam circulation are discussed and illustrated in technical bulletin No. 4. Sarco Co., Inc., Empire State Bldg., New York 1, N. Y.

1-16. Greases. "The Fundamentals of Lubricating Greases and Their Applications" in textile machinery are covered graphically and colorfully in a new education booklet recently published. Explanation of scientific principles that make greases a separate category of lubricants, in nontechnical languages with over 40 pages of text, photographs and drawings. Shell Oil Co., 50 West 50th St., New York 70, N. Y.

1-17. Air Foam. Brochure describes Air Foam, methods of application, high and low expansion types of foam compound, and many other phases of fire fighting requirements. Illustrated and includes engineering data and cutaway diagrams. Pyrene Manufacturing Co., 560 Belmont Ave., Newark 8, N. J.

1-18. Adhesives. Eight-page catalog section on adhesives which features a table which lists by number each adhesive and the materials for which they are specifically recommended and the method by which the most effective bond is created. Specifications listed, including those of the Army and Navy, that it meets. B. F. Goodrich Co., Akron, Ohio.

1-19. Custom Made Thread Guides. Illustrated booklet describing uses and physical properties of the "Al Si Mag" line of thread guides which are specially made to suit the need. Advantages discussed and picture and order number of each type is given. American Lava Corporation, Chattanooga 5, Tenn.

1-20. Semi-Decating Machine. Brochure describing the Gessner Versamatic Hydraulic Semi-Decating machine designed to control with extreme accuracy, all phases of the operation. Operation described and advantages discussed with pictures. David Gessner Co., Worcester, Mass.

1-21. Chemicals and Specialties. Catalog listing chemicals and specialties listed alphabetically under their common chemical names or the companies trade name, and is presented to the trade as a convenient reference. A general description is included for each product along with typical applications for each. Jacques Wolf & Co., Passaic, N. J.

1-22. Speed Reducers. Four engineering bulletins describing and illustrating the improved Faulk parallel shaft speed reducer and the right angle speed reducer (both horizontal and vertical). The bulletins describe these speed reducers as being designed for a wide variety of power transmission requirements, and as being rated according to the standards of American Gear Manufacturers Association. The Faulk Corp., Milwaukee 8, Wisc.

1-23. Creels. Illustrated booklet showing Reiner's line of truck creels, jack creels, special duty creels, magazine creel, etc., with specifications on each and engineering drawings. Robert Reiner, Inc., 556 Gregory Ave., Weehawken, N. J.

1-24. Ratio Totalizer. Twelve applications of the Hagan Ratio Totalizer in automatic control circuits are described and illustrated by diagrams in a new bulletin available. A pneumatically operated control mechanism for accurately combining input control pressures and spring forces to produce a single output control pressure. Cutaway drawing in color illustrates principles of operation and modification of design for special uses. Hagan Corporation, Hagan Building, Pittsburgh 30, Pa.

1-25. Materials Handling. Bulletin No. 28 dealing with equip-

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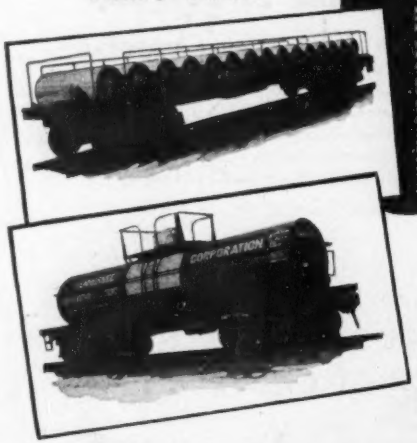

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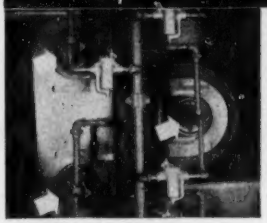

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1-26. Transmission Belting. Technical bulletin on flat transmission belting as an aid to plant engineers and operating personnel in selecting the right transmission belt to meet their individual problems. Complete formulae, charts, and tables. Thermoid Company, Trenton, N. J.

1-27. Packaged Chains. Folder F57-50 gives a complete description of all Morse Factory-Packaged chains and parts together with list prices. This is the first complete packaging program in the industry, according to the folder. Morse Chain Co., 7601 Central Ave., Detroit 8, Mich.

1-28. Grainding and Mixing. Bulletin No. 265 describes this complete line of grinding and mixing equipment. One page is given entirely to "Borundum" Grinding Media which, according to the bulletin, will increase grinding capacity of mills 60% or more with less contamination of the mill charge. U. S. Stoneware Co., Process Equipment Div., Akron 9, Ohio.

1-29. Product Development. The new Product Development Department of American Cyanamid Company announces the publication of "Collective Volume II," a compilation of data on several new chemicals which have become available from the company's research laboratories during the last year. Copies available on request. American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y.

1-30. Measuring Instruments. Four new measuring instrument catalogs covering Industrial, Dial, and Indicating Thermometers, Pressure Gauges and Recorders. Complete description of each and well illustrated. Gotham Instruments Div., American Machine & Metals Inc., 233 Broadway, New York.

1-31. Preparatory Machinery. Brochure which pictures and gives uses of each type of machine manufactured by this company. Scouring, extracting, drying, opening, picking, dusting, blending, and many other types of machinery shown. C. G. Sargent's Sons Corp., Graniteville, Mass.

1-32. Variable Motor Speed Control. Brochure illustrating and giving specifications concerning electronic variable motor speed control systems for use in various industrial applications. Servo-Tek Products Co., 4 Godwin Ave., Paterson, N. J.

1-33. Thermocouple Temperature Indicators Bulletin introducing new line of thermocouple actuated Microsen Temperature Indicators and Recorders, designed to fill the need for a sturdy, economical type of electrical instrument capable of measuring temperature between minus 100° F and plus 3000° F. Illustrated with engineering drawings and data. Manning, Maxwell & Moore, Inc., Bridgeport 2, Conn.

1-34. Cellulose Esters. Comprehensive and detailed information covering uses and specifications of Eastman Cellulose Esters, the compatability of these Esters with solvents, resins, etc. Primarily a laboratory manual for those interested in using Cellulose Esters in textile coatings and impregnations. Tennessee Eastman Corp., 10 East 40th St., New York 16, N. Y.

1-35. Electronic Moist-O-Graph. Instrumentation Data Sheet No. 8. 1-37 describes the new Brown Electronic Moist-O-Graph for measuring and controlling moisture regain on rayon and synthetic warp yarns. Operating principles and system benefits is fully discussed. Minneapolis-Honeywell Regulator Co. (Industrial Division Brown Instruments Division), Wayne and Roberts Aves., Philadelphia 44, Pa.

1-36. Selvage Marking. New bulletin describes machine which accurately marks the selvage of any fabric from the sheerest to the heaviest overcoating. Any design, any colors may be used and it is said that canvas or leather belting, rubber products or coated products may be marked. Milfa-Graph, Inc., Wilmington 99, Del.

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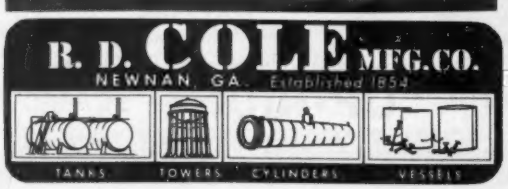

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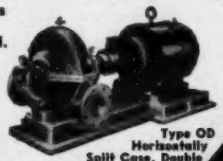

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123. STAINLESS STEEL TANKS — Bulletin CHE-56 illustrates the half round stainless steel horizontal jacketed tank with horizontal agitator and scraper blades, used for size cooking. Bulletin JS-50 shows various stainless steel jacketed tanks, and SS-50 shows single shell tanks.—METAL GLASS PRODUCTS CO., Belding, Mich.

125. FILTERED DAYLIGHT—Booklet on Industrial Daylighting with helpful information on reduction of glare and sunheat in textile mills. Guide for selection of the right glass for windows and skylights.—BLUE RIDGE SALES DIVISION LIBBEY, OWENS, FORD GLASS CO., Toledo, Ohio.

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140. STEEL PRODUCTS—Complete list of hot and cold rolled carbon and stainless steel products available for immediate shipment—issued regularly. —WAREHOUSE DIVISION, ATLANTIC STEEL CO., P. O. Box 1714, Atlanta, Ga.

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210. MOTOR BEARINGS—The 1950 edition of Johnson's Industrial Bearing Catalog is now available. Shows several new motor bearings added, along with the standard stock sizes.—JOHNSON BRONZE CO., New Castle, Pa.

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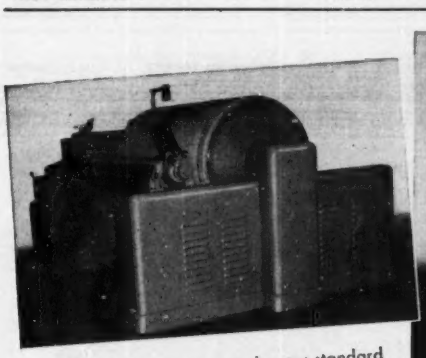

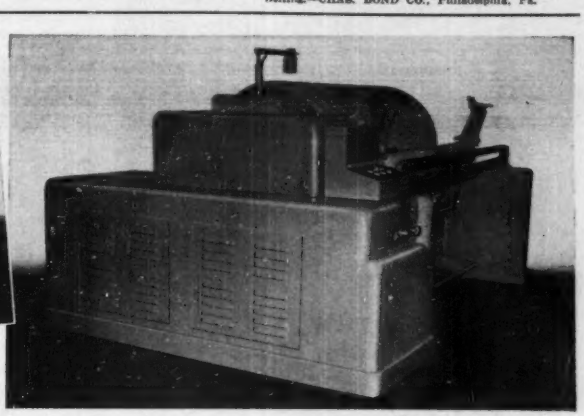

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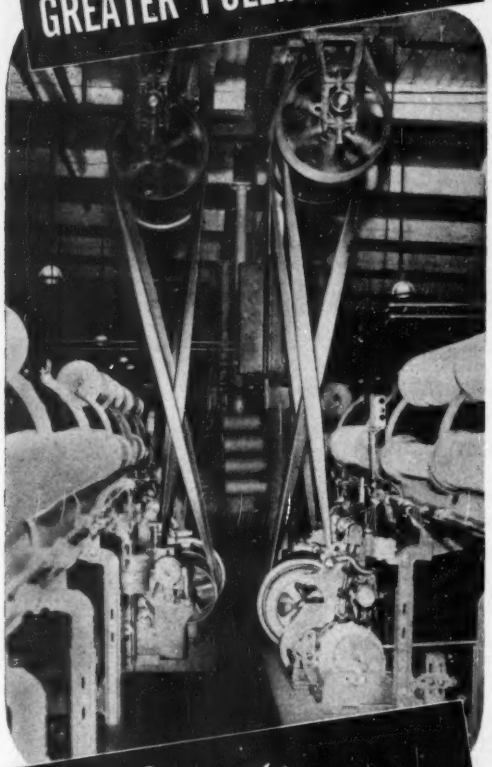

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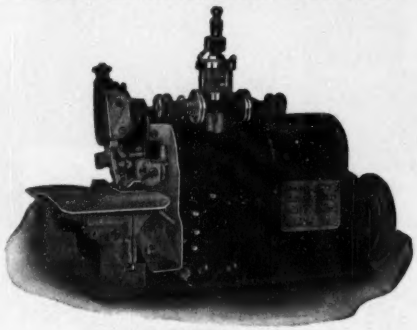

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218. BALL BEARINGS FOR TEXTILE MACHINERY—A 60-page catalog illustrating Fafnir Ball Bearing units for replacement or new applications in all phases of textile processing.—THE FAFNIR BEARING CO., New Britain, Conn.

229. MOTOR SELECTION—Booklet B-2075-C on different types of fractional horse power motors, and factors in selection of right motor for the application. Large chart gives complete data on small motors, horsepower, speed, torque, etc.—WESTINGHOUSE ELECTRIC CORP., Pittsburgh, Pa.

223. ELEVATOR SELECTION—How to integrate the selection of freight elevators with the material handling problem answered in 44-page booklet B-4429 on freight elevators.—ELEVATOR DIVISION, WESTINGHOUSE ELECTRIC CORP., Pittsburgh, Pa.

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240. LEATHER BELTING—Illustrated booklet on how to select, install and maintain leather belting. Efficient transmission performance, with minimum maintenance, and maximum service life described.—SOUTHERN BELTING CO., Atlanta, Ga.

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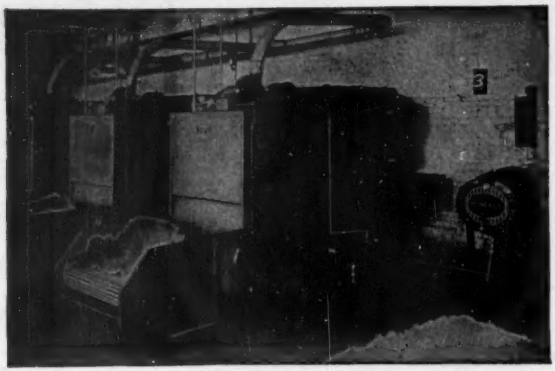

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800. TEXACO 18 IN THE KNITTING INDUSTRY—Booklet on Texaco soft lubricants.—THE TEXAS CO., New York, N. Y.

810. ALUMINUM BEAMS—Catalog No. 1-51 describes Reeves magnesium and aluminum castings for the textile industry. Illustrates Gid company's beams that are one-third the weight of conventional beams that are one-third the weight of conventional beams.—REEVES INDUSTRIES, INC., Jackson, Mich.

812. CIRCULAR KNITTING MACHINES—Interesting, informative and well illustrated is this six-page folder. Just released, which describes this company's small diameter single cylinder machines.—H. ERINTON COMPANY, Philadelphia 24, Pa.

815. THE NEW REINER HIGH SPEED TRICOT MACHINES—16" or 24" knitting widths. A richly illustrated catalog describing in many novel features of construction and performance.—REINER, REINER, INC., Weehawken, N. J.

816. THE NEW REINER KAYLOOM—A new, Jacquard Knitting Wearing Loom, featured in the comprehensive Knitting Wearing Loom, featured in the comprehensive Knitting Wearing Loom, featured in the comprehensive

Personal NOTES

ABOUT MEN YOU KNOW

Harry Baldwin has been appointed general manager of Verney Mill, Brunswick, Me., while continuing with his previously assigned duties as vice-president in charge of all manufacturing. Mr. Baldwin succeeds Chester Boyce, who resigned to join Goodall-Sanford, Inc.

Simpson J. Adams has replaced Francis D'Orsey as superintendent at Schneider Mills, Taylorsville, N. C.

Deering, Milliken & Co. have announced the resignation of **Henry Neubert,** who had been vice-president in charge of the rayon, nylon, and fancy cotton goods department. He is succeeded in this position by **J. Calhoun Harris,** president of Deering, Milliken Export Co. and vice-president in charge of print cloth sales. **A. J. Dillard,** formerly in charge of tire cord sales and Saran sales, will be head of the print cloth department.

At the recent annual meeting of the National Association of Woolen and Worsted Overseers, **Raymond C. Bourey,** Claremont, N. H., was elected president. Mr. Bourey succeeds Charles Aulerich. Other officers elected include: **Leroy Payne,** Manchester, N. H., first vice-president; **Francis Herbert,** Yantic, Conn., second vice-president; **William Neumann,** Roselle Park, N. J., third vice-president; **Fred J. Liebold,** Lowell, Mass., treasurer. **James J. Burns** of Holyoke, Mass., was re-elected secretary, and **Manual Silva,** Torrington, Conn., was named assistant secretary. Trustees are **Raymond Stenson,** Coventry, R. I., and **John Moran.**

The Vermont Associated Industries, at its annual meeting in Woodstock, Vt., elected **Herbert C. Gates** as president, to succeed Olin D. Gay of Gay Bros. Mr. Gates is general manager of E-Z Mills, Inc., Bennington, Vt.

Harold A. Bishop was recently re-elected president of the Boston Wool Trade Association. At present Mr. Bishop is attending a wool conference in Australia as an advisor to the United States Government delegation.

Ralph G. Boyd, president of West Point (Ga.) Manufacturing Co., was recently named chairman of the board of directors of Lanette (Ala.) Bleachery and Dye Works.

Chadbourne Hosiery Mills, Inc., Charlotte, N. C., have announced the appointment of **William J. Leath** as a vice-president. Mr. Leath will also be executive vice-president and general manager of the firm's subsidiary, Full Knit Hosiery Mills, Inc., Burlington, N. C.

H. G. Mapes, formerly secretary-treasurer of Appalachian Mills, Knoxville, Tenn., has been named president, succeeding W. A. Brownlee, deceased. Mr. Mapes is replaced by **L. W. Dugan,** who was vice-president in charge of production.

Utica (N. Y.) Knitting Mill[illegible] announced the election of **Ho[illegible] Newman** to the board of directo[illegible] Mr. Newman, of Graham-Newma[illegible] Corp., New York, N. Y., succeeded Fred H. Grosse.

Thomas D. Russell, president of Russell Manufacturing Co., Alexander City, Ala., was elected a trustee of the University of Alabama, from which he graduated in 1925, and has also become a member of the board of trustees of Tuskegee Institute.

William C. Waring, Jr., formerly with the law firm of Edwards & Angell, Providence, R. I., has been appointed to the newly created post of assistant to Royal Little, president of Textron, Inc.

Paul Brett, associated with Wamsutta Mills, New Bedford, Mass., for the past eighteen years, was recently elected vice-president in charge of West Coast sales. Mr. Brett has been manager of West Coast sales for the past year.

Joseph W. Powdrell, co-founder and chairman of the board of Powdrell & Alexander, Inc., Danielson, Conn., and president of its subsidiary, Gosnold Mills Corp., has retired from active service. He is succeeded as president at Gosnold Mills by **James**

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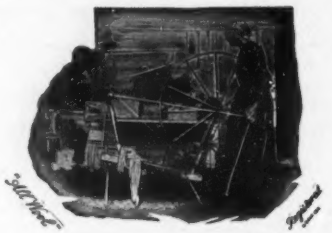

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Lace condenser tapes with Clipper No. 25 Condenser Tape Hooks. Clipper laced tapes, prepared in advance, can be installed in a fraction of the time required for endless tapes. Tape may be purchased in the roll at considerable saving.

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Personal NOTES ABOUT MEN YOU KNOW

Bolton, formerly executive vice-president. **Harold Rapp,** vice-president and treasurer at Powdrell & Alexander, has also become treasurer of the subsidiary mill.

H. F. Thomas recently resigned as superintendent at Stonecutter Mills Corp., Spindale, N. C.

J. Duncan Webb has been named to succeed T. A. Bassin, resigned, as controller of Dan River Mills, Inc., Danville, Va.

James H. Riddle has been elected vice-president and **Edward T. Taylor,** treasurer, at North Carolina Finishing Co., Salisbury, N. C. Mr. Taylor continues in his post as secretary of the firm.

C. L. Pierce has retired as treasurer of Jordan Mills, Inc., Columbus, Ga., after seventeen years with the firm. He is succeeded by **Roy Thurman,** while **Harold Ruff** has been named secretary.

James Southern has been appointed to the Burnsville, N. C., plant of Duplan Corp. to deal with production problems, according to a recent announcement.

Robert R. West, president of the Wilkes-Barre (Pa.) Lace Manufacturing Co., was recently given the Army's highest civilian award for "outstanding performance of duty" as deputy to the Undersecretary of the Army from July 1948 to April 1950.

G. B. Lawrence, formerly with Cosmos Imperial Mills Ltd. at Yarmouth, Nova Scotia, is now plant superintendent of the Imperial Division of the same firm, at Hamilton, Ontario.

Raymond J. Carey of General Dyestuff Corp. was recently elected chairman of the Western New England Section, American Association of Textile Chemists and Colorists. He succeeds **Dr. J. Edward Lynn** of American Cyanamid Co., who has been made councilor. The new vice-president is **O. Edelstein** of The Pond Lilly Co., while **S. V. Vaniotis** of Sidney Blumenthal Co., was elected treasurer.

Formerly with Grover Mills, Montreal, Que., **E. Worsley** is now overseer of carding at Dominion Rubber Co. Ltd.'s textile division, Kitchener, Ont.

At its recent annual meeting, the Carolina Yarn Association named **Joe Foil** as president, succeeding William J. Yates. Mr. Foil is a representative of Hickory Throwing Co. **D. R. LaFar, Jr.,** of Gastonia, N. C., was elected chairman of the board, succeeding **J. Craig Smith** of Avondale Mills, now vice-chairman.

F. Eugene Ackerman, who was recently made president of The Wool Bureau to succeed W. Francis Fitzgerald, has resigned his post as executive director of the American

Mr. Ackerman

Wool Council, Inc., recommending that this position be eliminated. **Reginald G. Lund,** chairman of the International Wool Secretariat, was named chairman of the Wool Bureau executive committee.

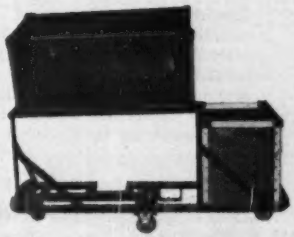
F. M. Holmes, Jr., on leave of absence from Fieldcrest Mills, is spending three months in Germany as industrial consultant for the Industrial Division of the ECA.

Emil Robitaille has left Grout Silk Mills, St. Catherines, Ont., to become superintendent at Riverside Silk Mills, Mitchell, Ont.

At its annual stockholders meeting, Peerless Spinning Corp., Lowell, N. C., named **Mrs. J. A. Groves** as vice-president and assistant treasurer. **Harry L. Sturgis** was elected assistant secretary. All other officers were re-elected.

The Cone Mills Corp. has announced a number of personnel changes and promotions. **Edwin G. Holt** was made assistant vice-president of the Cone Export and Commission Co., Inc., while **Alan Cone** was elected secretary of the firm's subsidiary, Minneola Manufacturing Co., Gibsonville, N. C. In the Revolution Rayon Division of the corporation, **Herman Cone, Jr.,** has been promoted to assistant manager, his

No Back-Breaking Lifting or Straining with the EXCEL No. 2000 Swing Bed Doff Truck



The hinged loose-box dumps easily and a handy foot-stirrup keeps truck from tilting when discharging. Heavy duty vulcanized fibre boxes, all-welded metal frames, metal bumpers on both ends for added protection. The Excel No. 2000 is tops in ease of operation and convenience.

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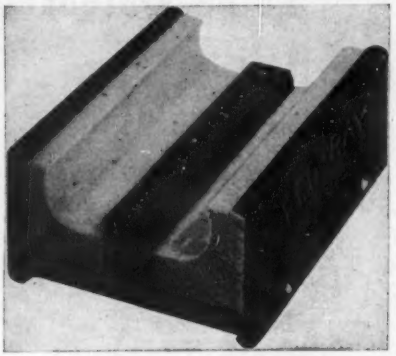

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Any number of sections may be used to make a continuous burner of any desired length up to 10 or 12 feet and more.

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Personal NOTES
ABOUT MEN YOU KNOW

duties being concerned with the administrative side of the business. **Jack Hughes** will be assistant manager of the operating end of the business. **Luther D. Smith**, formerly acting superintendent, is now superintendent of Rayon Weaving. **Tracy Burke** has been advanced from assistant overseer to overseer of weaving in the same department.

E. Stanley Klein, Jr., former rayon sales manager, has been appointed manager of Fieldcrest's Zion (Ill.) Curtain Mill. **O. D. Petty** was named assistant manager.

Verney Corp. of Canada, Ltd., Granby, Que., has announced the election of **Abraham Berkowitz** of Boston, Mass., as president. Mr. Berkowitz succeeds Jacob Ziskind, deceased. **Abraham Ziskind** of Crescent Corp., Fall River, Mass., is the new treasurer, and **L. Nelson Thompson**, general manager, has been made vice-president.

Bernard Gutmann, formerly with Bethlehem Silk Co. for a ten-year period, has rejoined the firm, in a technical capacity.

William Armstrong has left L. Newlands Co. Ltd., Galt, Ont., to become overseer of spinning at George Pattison Mfg. Co., Ltd., Preston, Ont.

John J. Buckley, formerly a technician in the main office of Riverside Silk Mills, Galt, Ont., has been made cost accountant at Canadian Celanese Ltd., Drummondville, Que.

J. Balloul has become associated with Bruck Mills (Australia), Ltd., Wangaretta, Vic., Australia, as weaving superintendent.

Harry Ibbetson recently resigned as general secretary of the Textile Institute, Manchester, England, to become secretary of the International Wool Secretariat.

Dr. Jack Compton, technical director of chemistry section of the Institute of Textile Technology, Charlottesville, Va., has been made technical director of all branches of the Institute's research program.

Harry V. Banks was recently appointed comptroller of Wamsutta Mills, New Bedford, Mass., replacing **Richard N. Stone**, who has been made director of the sales service department.

Hayden C. Cobb, Jr., former planning and production manager at Mooresville (N. C.) Mills, has been appointed general superintendent. Mr. Cobb succeeds W. B. Thomas, resigned.

Charles E. Dearnley, president of the Dearnley Brothers Worsted Spinning Co., Philadelphia, Pa., has been made a member of the Aims and

Mr. Dearnley

Mr. Wagner

Objects Committee of Rotary International. **Charles H. Wagner** of Haddonfield, N. J., now a district governor of the organization, has been associated with the wool processing industry since 1908.

According to a recent announcement, **Colonel Edward F. Stanford-Blunden** of Hopewell, N. J., has been appointed chief of Quartermaster industrial mobilization for the New York Quartermaster Procurement Agency. In this capacity, Colonel Blunden will be responsible for planning activities designed to make industries which supply the N. Y. Procurement Agency, ready for immediate production in the event of any national emergency.

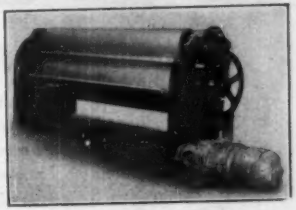
Allan B. Whitfield, formerly an engineer in the time study department of Hamilton (Ont.) Cottons Co., Ltd., has become assistant secretary of the Textile Workers Union in that city.

Obituaries

After a long illness, **Aaron Henry Bradley**, 78, superintendent of the Crystal Springs Cotton Mills, Chickamauga, Ga., died on November 24. Mr. Bradley had been with the mill for 38 years.

On November 26 **Frank C. Hewitt**, North Adams, Mass., died at the age

Single-Bar Curved Rubber Expander with increased thickness of rubber giving longer life and better stretch, and fitted with trouble-proof bushings. Also made with 3 Bars.



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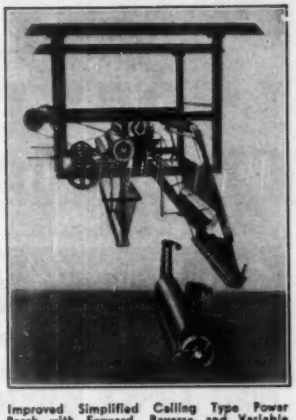
New Heavy Duty (30,000 lbs.) Roller Bearing Unit for extracting, padding, and applying resin treatments. Pressure applied by air cylinders. Equipped with brush for removing flocks, flock tray, drain pan, and variable speed drive. Roll shafts of large diameter extending all the way through the rolls.



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Patent Re-Enforced Adjustable Slot Vacuum Box or Extractor with Handwheel Adjustment and Ring Type Slot Seals. Used on Continuous Crabbs, Scouring Machines, Continuous Dyeing Machines, Scutchers, Dryers, Dry Cans, Mangles, etc.

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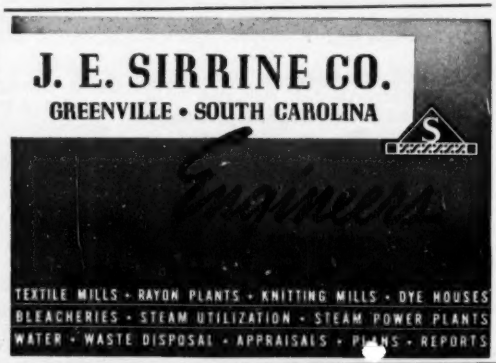

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Personal NOTES ABOUT MEN YOU KNOW

of 50. Mr. Hewitt was vice-president of Consolidated Textile Corp., New York, N. Y., and general manager of Windsor Print Works, in North Adams, Mass.

William R. Elsas, president of Fulton Bag & Cotton Mills, Inc., Atlanta, Ga., since January, 1950, died in Tryon, N. C., on December 9 of a heart attack. Mr. Elsas was 45 years old.

Funeral services were held on November 27 for **Bennet Bronson,** administrative vice-president of Scovill Manufacturing Co. Mr. Bronson had been with the Oakville Co. division of that firm for 41 years.

George W. Babcock, Sr., president of Puritan Cordage Mills, Louisville, Ky., for the past 32 years, died the latter part of November.

Howard B. Snader, executive vice-president of Vanity Fair Mills, Inc., died on November 13 at his home in South Temple, Pa.

W. Harold Hylton, chief of the technical laboratories at Berkshire Knitting Mills, died of a heart attack on November 9. Mr. Hylton, associated with the firm since 1929, was 40 years old.

William A. Brownlee, chairman of the board of Appalachian Mills Co., Inc., Knoxville, Tenn., died on November 7 after a month's illness.

J. W. Lindsay, president of Guilford Hosiery Mills, died recently at the age of 55 at his home in High Point, N. C. Mr. Lindsay had been in poor health for nearly a year.

W. E. McKown, widely known in textile circles in Georgia and the Southeast, died recently at his home in Lafayette, Ga.

William H. Porcher, 72, associated with Whitin Machine Works until his retirement last year, died in Charlotte, N. C., on November 13.

On November 19, **Andrew G. Pierce, 86,** died at his home in New Bedford, Mass. Mr. Pierce had long been associated with the textile industry, and was a former head of the American Woolen Co.

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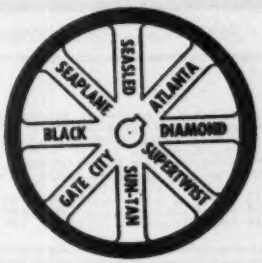

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We can save *YOU* money by putting the *right* type drive on each one of your machines, the *right* type belt on each one of your drives and the *right* type strap on each one of your looms.

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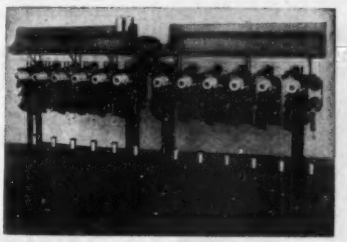

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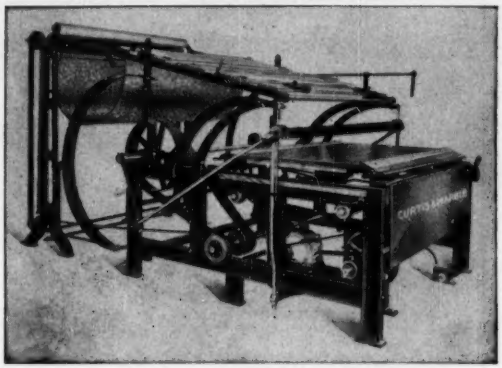

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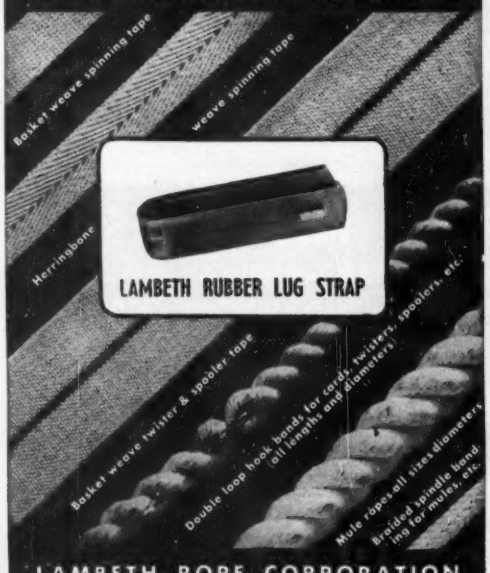
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Index of ADVERTISERS

A

Abbott Machine Co. 40
Advertising Council Inc. ..... *
Aldrich Machine Works 24
Allen Son's Co., W. M. 224
Allis Co., Louis 150
Allis-Chalmers Mfg. Co. 10 and 11
Althouse Chemical Co. ..... *
Amalgamated Chemical Corp... *
American Air Filter Co. ..... *
American Aniline Products Inc. 179
American Associated Consultants, Inc. 190
American Cyanamid Co., Industrial Chemicals Div. .. *
American Lava Corp. 59
American Moistening Co. ..... *
American Monorail Co., Inc...130
American Pulley Co. 87
American Steel & Wire Co. ...170
American Textile Engineering. *
American Viscose Corp. 89
American Yarn & Processing Co. 216
Amplex Division (Chrysler Corp.) 8
Anemostat Corp. of American.. *
Arkansas Company, Inc. 67
Armstrong Cork Co..22, 23 and 86
Arnold, Hoffman & Co., Inc...180
Ashworth Bros., Inc. ..... *
Atkinson, Haserick & Co. 16
Atlanta Belting Co. 221
Atlantic Steel Co. ..... *
Atlas Mineral Products Co. ...228
Aurora Pump Co. 208
Avondale Mills 218

B

Bachmann Uxbridge Worsted Corp. ..... *
Babnson Co. ..... *
Barber-Colman Co. (Controls). *
Barber-Colman Co. (Textile Div.) 88
Barnes Textile Associates Inc. 220
Becco Sales Corp. ..... *
Best & Co., Edward H. 216
Bijur Lubricating Co. 186
Birch Brothers, Inc. 219
Bond Co., Charles 225
Borne, Scrymser Co. 212
Brinton Co., H. 42
Buffalo Electrochemical Co. Inc. ..... *
Buffalo Forge Co. 4
Buffalo Pumps, Inc. 177
Butterworth & Sons Co., H. W. 184

C

Calco Chemical Division 145
Cameron Machine Co. ..... *
Carbomatic Corporatoin ..... *
Carborundum Co. ..... *
Carnegie-Illinois Steel Corp...170
Carrier Corporation ..... *
Carter, Inc., A. B. 168
Celanese Corp. of America & Subsidiary Cos. 58
Chapman Elec. Neutralizer Co. ..... *
Ciba Co., Inc. ..... *
Circular Banding Co. ..... *
Clark Equip. Co. (Industrial Truck Div.)... *
Classified Ads .....222 and 223
Clayton Co., J. M. ..... *
Cleveland Tramrail Division.. 25
Clinton Foods Inc. 160
Clipper Belt Lacer Co. 216
Cocker Mach. & Fdry. Co. 57
Cole Co., R. D. 208
Colorado Fuel & Iron Corp., The, Wickwire Spencer Steel Division 168
Colson Corporation 192
Columbia Steel Co. 170
Comer Machinery Co. 223
Commercial Factors Corp. .....Second Cover
Continental-Diamond Fibre Co. 220
Corn Products Sales Co. ..... *
Crabb Company, William .... *
Crane Co. ..... *
Crompton & Knowles Loom Works 20
Crossett Chemical Co. 192
Crouse-Hinds Co. 65
Curlator Corp. (Textile Corp.) 13
Curtis & Marble Machine Co..224
Cutler-Hammer, Inc. ..... *

D

Daniels, Inc., C. R. ..... *
Darnell Corp., Ltd. 199
Dary Ring Traveler Co. 204
Dayton Rubber Mfg. Co. ..... *
Dixon Saddle Co. 175
Dommerich & Co., L. F. ..... *
Dow Chemical Co. ..... *
Draper Corporation 1
Drew & Co., Inc., E. F. ..... *
Dronsfield Bros. Ltd. 212
Du Pont de Nemours & Co. Inc., E. I. (Dyestuff Div.). *
Du Pont de Nemours & Co. Inc., E. I., (Electrachemicals Dept.) 71
Du Pont de Nemours & Co. Inc., E. I. (Finishes Div.).. *
Du Pont de Nemours & Co. Inc., E. I. (Rayon Div.) .....14 and 15
Dura-Tred 211
Durant Mfg. Co. 196

E

Economy Baler Co. 226
Edda International Corp. 187
Emery Industries, Inc. 48
Emmons Loom Harness Co. .. *
Erie Mfg. Company 49
Excel Textile Supply Co. 217

F

Fafnir Bearing Co. 86
Felters Company, The ..... *
Fidelity Machnie Co. ..... *
Finnell Systems, Inc. ..... *
Fletcher Works ..... *
Formica Co., The 142
Foster Machine Co. 55
Foxboro Company ..... *
Franklin Process Co. ..... *
Fyans & List Machinery Co., Inc. ..... *

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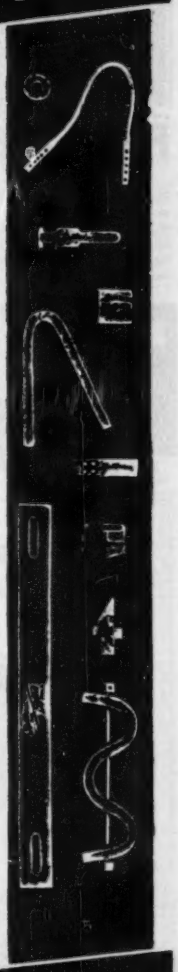

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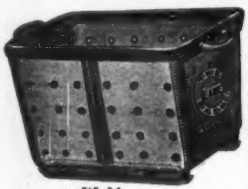
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Index of ADVERTISERS

G

Gardner-Denver Co. ..... *
Gaston County Dyeing Mach. Co. ..... *
Gastonia Brush Co. ..... *
Gastonia Textile Sheet Metal Works ..... *
Gates Rubber Co. 33
Gaylord Container Corp. 90
Geigy Co., Inc. ..... *
General Dyestuff Corp. 53
General Electric Co. ...50 and 51
General Radio Co. ..... *
Gessner Co., David 209
Goodyear Tire & Rubber Co... 9
Graton & Knight Co. 45
Gulf Oil Corp. 41

H

H & B American Machine Co..166
Hart Products Corp. ..... *
Hayes Industries, Inc. ..... *
Hayssen Mfg. Co. 204
Hermas Machine Co. 185
Herr Mfg. Company 79
Hinnekens Machine Co. ..... *
Hofmann & Co., Inc., Alfred.. *
Holloway Mfg. Co. 196
Holt Hardwood Co. ..... *
Houghton & Co., E. F. 88
Howard Bros. Mfg. Co. 32
Hubinger Company ..... *
Hyatt Bearings Div. ..... *

I

Ideal Mach. Shops ..... *
Industrial Chemicals Div. .... *
Industrial Dryer Corp. ..... *
Interchemical Corp. (Textile Color Div.) .....46 and 47
Iselin & Co., Inc., Wm. ..... *

J

Jarrett & Co., Cecil H. ..... *
Jenkins Metal Shops, Inc. ..186
Jenkins Remodling Co., Inc...228
Jenkins Sons, Inc., M. W. .. 91
Johnson Bronze Co. 193
Johnson Corp. 206
Johnson Machine Works, Chas. B. 227
Jones Motrola Corp. 224

K

Kali Mfg. Co. 216
Kearny Mfg. Co. ..... *
Keever Starch Co. 200
Kidde & Co., Inc., Walter .. *
Kidde Mfg. Co. ..... *
Kirkman & Dixon Machine Shop & Foundry 215

L

Lambeth Rope Corp. 224
Lane & Bros., Inc., W. T. 226
Laurel Soap Mfg. Co. ..... *
Lawlor Co., S. C. ..... *
Lazenby & Co., F. A. 228
Lee Co., L. A. 228
Lestershire Spool & Mfg. Co.. *
Link-Belt Co. ..... *
Logan Company 183
Logeman Co., C. W. 176
Loper Co., Ralph E. 218
Logemann Brothers ..... *
Louden Machinery Co., The .. *

M

McBride Co., Inc., Edward J... *
McGraw-Hill Book Company, Inc. 211
Machinecraft, Inc. 56
Manton Gaulin Mfg. Co., Inc..198
Maple Flooring Mfrs. Assn...195
Marquette Metal Products Co.. 80
Marshall & Williams Mfg. Co..160
Mason-Neilan Regulator Co... *
Mathieson Chemical Corp. .... *
M-B Products ..... *
Meadows Mfg. Co. 156
Meese, Inc. ..... *
Merrow Machine Co. 210
Metal Glass Products Co. 210
Miller Motor Co. ..... *
Milton Machine Works ..... *
Minneapolis-Honeywell Regulator Co. (Industrial Div.).. 72
Moisture Register Co. ..... *
Monsanto Chemical Co. 138
Monticello Bobbin Co. 221
Morningstar Nicol, Inc. ..... *
Mt. Hope Machinery Co. 202

N

Nash Company, J. M. ..... *
National Aniline Div. 35
National Ring Traveler Co. ..228
National Starch Products, Inc.. *
National Textile Supplies, Inc..174
Natolnal Tube Co. 170
New Departure Div. 132
New England Bobbin & Shuttle Co. 82
New England Machine Works.. *
New York & New Jersey Lubricant Co. 178
Nopco Chemical Co. 44
Norcross Corp. ..... *
North, Inc., Frank G. 191

O

Oakite Products, Inc. 220
Onyx Oil & Chemical Co. 158
Orkin Exterminating Co. 221
Orr Felt & Blanket Co., The ..202

P

Parks-Cramer Co. ...Front Cover
Paisley Products, Inc. ..... *
Peerless Pump Division ..... *
Peerless Roller Covering Shop.228
Penick & Ford, Ltd., Inc. ...,218
Perfecting Service Company..194
Pittsburgh Steel Products Co. *
Perkins & Sons, Inc., B. F.... 52
Pneumafil Corporation 54
Powell Co., Wm. 43

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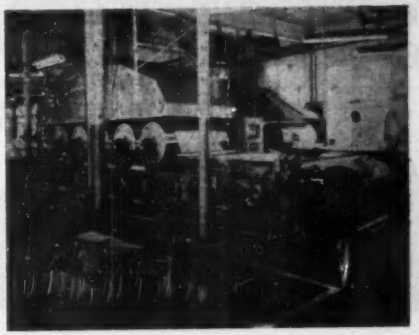

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Index of ADVERTISERS

Powers Regulator Co. ..... *
Precision Gear & Mach. Co...229
Proctor & Gamble Distributing Co. 26
Proctor & Schwartz, Inc. .... *

R

Ragan Ring Co. 206
Red Ray Mfg. Co. 215
Redman Card Clothing Co. ...224
Reeves Pulley Co. 19
Reiner, Inc., Robert ..... *
Rhoads & Sons, J. E. 210
Ridge Tool Co. ..... *
Riggs & Lombard, Inc. 143
Robbins & Myers, Inc. (Industrial Pump Div.) ...188
Robert & Co. Associates, Inc.. *
Rose & Co., E. F. ..... *
Ross Engr. Corp., J. O. ..... *
Roy & Son Co., B. S. ..... *
Royce Chemical Co...Fourth Cover

S

Saco-Lowell Shops 6
Sandoz Chemical Works 17
Sarco Company, Inc. 34
Sargents Sons Corp., C. G. ...200
Scherr Co., Inc., Geo. 226
Scholler Bros., Inc. Dura-Bean 140
Scholerized Products ..... *
Scott Testers, Inc. ..... *
Selig Company ..... *
Seydel-Woolley & Co. 75
Shepard Niles Crane & Hoist Corp. 182
Sherwin-Williams Co. 12
Sims Company, The ..... *
Sims Metal Works 74
Sinclair Refining Co., Inc. ... *
Sipp-Eastwood Corp. ..... *
Sirrine & Co., J. E. 210
SKF Industries, Inc. 70
Smith, Drum & Company .... *
Solvay Sales Division ..... *
Sonoco Products Co. 84
Southeastern Engineering Co.. *
Southern Belting Co. 61
Southern Reneedling Works Inc. ..... *
Southern Shuttles Div. ..... *
Southern Spindle & Flyer Co.. *
Southern States Equip. Corp.. *
Spool Cotton Co. 34
Staley Mfg. Co., A. E. ..... *
Standard Brands, Inc. 5
Standard Chemical Prod., Inc.. 92
Standard-Coosa-Thatcher Co... *
Standard Fabricators, Inc. ...184
Standard Mill Supply 229
Standard Oil Company, Inc... 62
Standard Pressed Steel Co. .....197 and 221
Steel Heddle Mfg. Co. ..... *
Steele Canvas Basket Co., Inc. *
Stein, Hall & Co. ..... *
Sterling Ring Traveler Co. Inc. 218
Stodghill & Company ..... *
Supreme Knitting Machine Co. *
Sylvania Division American Viscose Corp. ... 30

T

Taber Instrument Corp. ..... *
Taylor Instrument Cos. 78
Tennant Co., G. H. 189
Tennessee Coal, Iron and Railroad Co. 170
Tennessee Corp. 206
Tennessee Eastman Corp. .... *
Terrel Co. 72
Texas Co. 2
Textile Apron Co. 226
Textile Banking Co., Inc. ...164
Textile Industry 60
Textile Machine Works .....96 and 146
Textile Shield Co., Inc. 194
Textile Shops ..... *
Thomaston Mills ..... *
Tidewater Associated Oil Co.. 31
Toledo Scale Co. ..... *
Ton-Tex Corp. ..... *
Torrington Co. .....63 and 64
Treasury Department ..... *
Trico Fuse Mfg. Co. 220
Trust Company of Georgia ...203
Turbo Machine Co. ..... *

U

Union Special Machine Co. .. *
U. S. Bobbin & Shuttle Co. .....68 and 69
U. S. Ring Traveler Co. 206
U. S. Steel Corp. 170
U. S. Textile Mach. Co. 162
Universal Winding Co...18 and 29
Up-Right Scaffolds 207
Uster Corporation ..... *

V

Vanderbilt Co., Inc., R. T. ... *
Van Vlaanderen Machine Co... 7
Veeder Root, Inc. ...Third Cover
Victor Ring Traveler Co. .... *

W

WAK Industries, Inc. ..... *
Walker Mfg. Co. 230
Wallerstein Co., Inc. 152
Walton Laboratories, Inc. .... *
Want Ads .....222 and 228
Werner & Swasey Co. ..... *
Waterous Company ..... *
West Point Fdy. & Mach. Co.. 66
Westinghouse Electric Corp. .....76 and 77
Whitehead Engr. Co. 201
Whitin Machine Works 27
Whitinsville Spinning Ring Co. 212
Wicaco Machine Corp. ..... *
Wickwire Spencer Steel Division of The Colorado Fuel & Iron Corp. 168
Wildman Mfg. Co. ..... *
Willcox & Gibbs Sewing Machine Co. ..... *
Wilson Co., Emil V. 154
Winsor & Jerauld ..... *
Wolf & Co., Jacques ..... *
Worthington Pump & Mchy. Corp. 28

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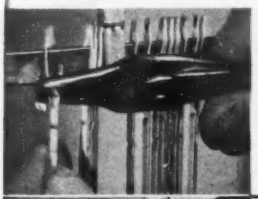
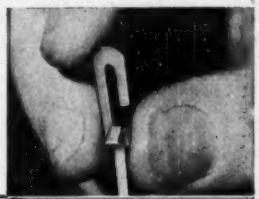
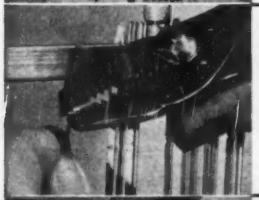


1

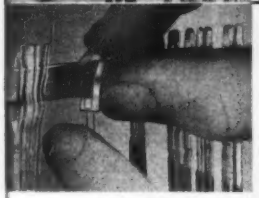
Break off the broken end loop at the exact bottom with a pair of pliers.





2

Insert the heddle shaft into the Walker Lock-On Repair Head and fold over clip and tongue. This locks the head securely on the shaft.



3

Slip loop over heddle rod and re-start the loom. This entire operation takes only one third the time per end required for the old method.

FOUR SIZES COVER ALL NEEDS. The heddle wire size, not the length, determines the repair head you need. Three sizes cover all but the very heaviest gauge heddles. So you've no inventory problem with Walker Lock-On.

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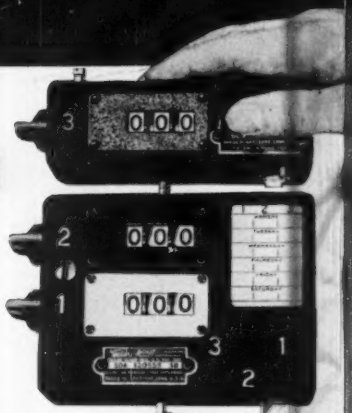

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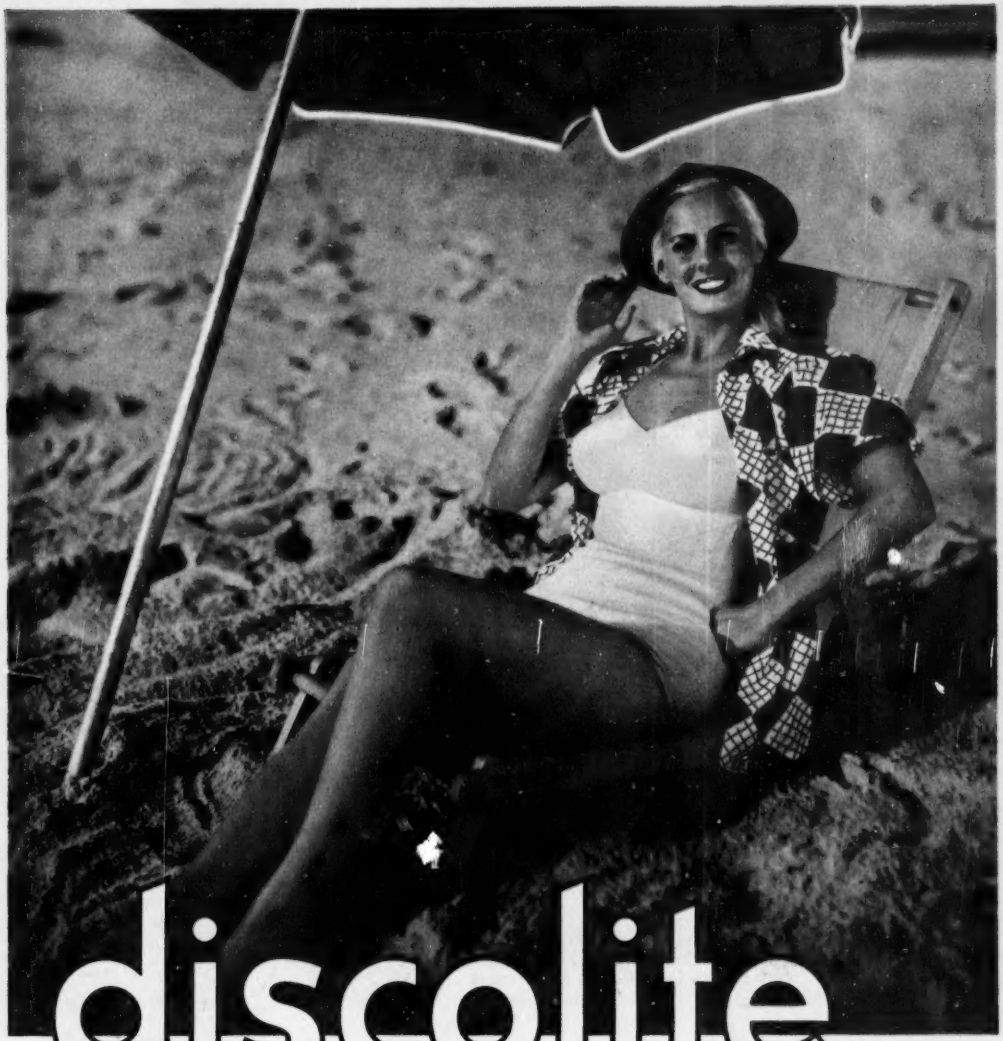

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